COMMISSION OF INQUIRY INTO DR. JAYANT PATEL AND RELATED MATTERS

DRAFT SUBMISSION OF DR. PETER D. COOK ON MATTERS RELEVANT TO THE TERMS OF REFERENCE

31 May 2005

Dr Peter D. Cook

25th May 2005

Mr A. J. H. Morris, Q.C.
Commissioner
Bundaberg Hospital Commission of Inquiry
P.O. Box 13147
George Street
BRISBANE Qld 4003

Dear Sir

I am writing to provide a written submission to your inquiry. My name is Peter Dalton Cook and I am a forty-six year old Specialist in Intensive Care and Anaesthesia. Since June 2001 I have been Director of Adult Critical Care Services (Public and Private) at Mater Health Services, Brisbane. (See Appendix E1 for full Curriculum Vitae)

Concerns about clinical practice at Bundaberg Base Hospital: Scheduled complex surgery should only be performed at appropriate hospitals.

Name: . P18

P18 was admitted to Bundaberg Hospital and underwent a scheduled oesophago-gastrectomy on 6th June 2003 for adeno-carcinoma of the gastro-oesophageal junction. Premorbid history included hypertension, diabetes mellitus and ischaemic heart disease with an acute myocardial infarct in 1996. He returned to the operating theatre at Bundaberg on the 12th June 2003 and 16th June 2003 for abdominal wound dehiscence and 18th June 2003 for leakage from the jejunostomy site.

Transfer to Mater Adult Public Hospital occurred on 20th June 2003.

I was immediately concerned that a scheduled operation of this complexity had occurred at a small hospital with limited back up facilities. The nature of these concerns related to:

1. Whether the surgeon was adequately trained for this operation (Royal Australasian College of Surgeons could advise).

2. Whether the surgeon had adequate recent experience of performing this procedure. As per the enclosed up to date summary on "Surgical Management of Localised Oesophageal Cancer" quoting a number of studies showing "Patients who undergo oesophagectomy at hospitals that

perform large numbers of procedures have lower peri-operative mortality rates and better early clinical outcomes than those who undergo resection at lower volume institutions".

3. Whether Bundaberg Hospital had sufficient backup facilities to allow support of such complex patients. Clearly with a Level One ICU this is not the case.

With this in mind I arranged for my concerns to be notified to the Southern Zone Management Unit of Queensland Health. This was achieved by:

(Appendix A.1) Discussing my concerns with Ms Jenny Skinner, Executive Officer, Mater Public Hospital as per agenda item of meeting held on 4th July 2003 at 0900. As a result of this meeting Ms Skinner asked me to write her a letter concerning the issues.

(Appendix A.2). Enclosed please find the requested letter dated 7th July 2003. Ms Jenny Skinner fed back verbally that she had forwarded this letter to the Southern Zone Management Unit.

(Appendix A.3). Separately John O'Donnell, CEO of Mater Health Services, had notified Southern Zone Management Unit of this patient's admission including an email from me stating: "in reality an oesophago-gastrectomy like P1& , should not have been done at a hospital without robust ICU back-up"

(Appendix A.4). I have included a letter I wrote on 6th May 2005 to Dr David Molloy, State President of the AMA concerning the correspondence (Appendix A.2) to Ms Jenny Skinner. This was the first time that the Australian Medical Association was formally notified of the existence of this letter. I have included this letter as I believe the record needs to be clarified that the AMA became aware of my letter to Ms Skinner only recently. I have also included the letter to Dr Molloy because it touches upon the issue of the budgetary implications of not reaching weighted separation targets. (A separation is the term used to refer to an episode of care {which can be a total hospital stay or a change in the type of care – acute to rehabilitation for instance}. Weighting gives each separation a value depending on the patient's diagnosis and complexity.)

This is an important issue and I believe is firmly within the terms of reference of your inquiry. The problem is that the same people who regulate standards at Queensland Health Hospitals also are penalised in a budgetary sense if sufficient surgery is not achieved. This puts these officers under tremendous pressure where even though they may have concerns about performance, to limit the scope of practice of clinicians at their hospital will result in the hospital receiving less funding from Queensland Health and major financial difficulties for them in the very short term. Clearly this is a conflict of interest and I believe something that should be examined closely by your Commission of Inquiry.

(Appendix A.5). Up to date summary on surgical management of localised oesophageal cancer. Page 5 of 14 refers to the importance of hospital volume in this type of procedure.

Concerns about Clinical Practice at Hervey Bay Hospital.

(Appendix B.1). I have similar concerns about the scope of general surgical practice at Hervey Bay Hospital. Enclosed please find a letter I wrote Mr Dan Bergin, Zonal Manager, Central Zone concerning patient P366

This lady was transferred to Mater Adult Hospital on 25th March 2005 after having a scheduled Whipple's Procedure on 21st March 2005. In my view it is unlikely to be appropriate for surgery of this scale to be performed at a hospital like Hervey Bay. The issues that need to be considered are the same as at Bundaberg and relate to the training of the surgeon, the recent experience of the surgeon and the multi-disciplinary back-up capabilities of the hospital.

(Appendix B.2). Enclosed please find a response from Mr Bergin, detailing that further Whipple's Procedures at Hervey Bay have ceased. I am not clear if he notified the Medical Board about these events.

(Appendix B.3). Enclosed also find an email to Ms Karen Roach, Southern Zonal Manager, Queensland Health dated 20th April 2005 in relation to a patient transferred from Hervey Bay to Princess Alexandra Hospital Intensive Care. This patient subsequently died. The scope of practice issues arising from this are similar to those related to a Whipple's Procedure. This second case points to the possibility that general surgical problems at Hervey Bay are not isolated to one case.

(Appendix B.4). I have enclosed a response from Ms Karen Roach dated 21st April 2005 acknowledging this notification and stating that she had referred the issue to Mr Dan Bergin.

(Appendix B.5). Also included please find an email from Ms Jenny King the Executive Director of the Mater Adult's Hospital which makes reference to my correspondence to the Zonal Manager.

(Appendix B.6). I have enclosed the letter I wrote about P366's death to the State Coroner highlighting my concerns. The Commission may wish to examine P366's file which is currently at the John Tonge Centre.

NOTIFICATION WHEN PRACTICE DEVIATES FROM ACCEPTED STANDARDS

The point I would like to make from the above cases is that experienced Clinicians can recognise practice which diverges from usual management. Even in the current Queensland Health environment steps have been taken to ensure that these cases are

investigated. I am of the view that that is similar in relation to Dr Con Aroney at Prince Charles Hospital and Dr Chris Blenkin in relation to orthopaedic issues at Hervey Bay Hospital. This is a process which needs to be fostered and encouraged.

SYSTEMS OF ACCOUNTABILITY

I would now like to move to point number four in relation to recommendations which you may consider. Broadly speaking there are three different systems of accountability.

(a) PEER REVIEW

Review of patient outcome by local competent experienced medical staff (peer review) with appropriate reporting mechanisms is by far the most effective. This could be achieved within a clinical unit structure composed of several consultants with at least one or more being Australian trained. For this to be achieved adequate support (both clerical and time) and issues of legal privilege need to be clarified and simplified. For this to be successful clearly a quorum of quality clinicians needs to be present.

(b) OUTCOME DATA

The second and somewhat less effective manner of ensuring accountability is reviewing outcome data. Clearly this is important but it is difficult and time consuming. It is subject to human error in terms of collection and reporting – particularly in relation to definition of complications. The data can be somewhat difficult to interpret and can be subject to mischievous use if interpreted in an unscientific manner. Clarification of issues in relation to legal privilege is essential. The data collection must be adequately resourced.

(Appendix C.1). Most Intensive Care units in Australia submit data in relation to admissions to a National Database. The AORTIC (Australian Outcome Resource Tool for Intensive Care) Database combines the patients' physiologic derangement with their underlying diagnosis coupled with co-founders for severe co-existent disease. This gives a probability of that patient surviving the hospital admission. The data is difficult to collect and must be interpreted carefully. For the thousand adult intensive care admissions per year at the Mater Hospital, the collection of this data occupies a Research Nurse for 0.8 FTE.

(Appendix C.2). This valid and accurate data needs to be compared to the Private Health Unit (PHU) of Queensland Health that carries out oversight of the performance of private hospitals by requesting raw mortality data for intensive care. This data is meaningless as it does not take into account underlying diagnosis or severity of illness. In meetings with representatives of the PHU they have accepted this. They do however point to their legislative requirement to collect this

data. This process is an example of how outcome data can be collected by Queensland Health yet not be useful in achieving its intended goal. This track record needs to be considered in any recommendations made concerning oversight utilising outcome data. The PHU is not a model for review of outcome data that I would recommend. The Commission should be wary of addressing issues of accountability by review of outcome data in isolation.

(c) COMPLAINTS BODY

The third option for ensuring accountability is a body which can be the repository for complaints. This I find the least practical of the three options. It would be far more appropriate to streamline and encourage the reporting of concerns about adequate performance from within the Health Department, emphasising a lack of blame associated with filing such concerns. The shortcomings of a body to handle complaints can be clearly demonstrated in the Health Rights Commission. In my view this body has had issues with long term resourcing and the requirements of a very difficult skill mix in the staff required to perform this duty. They appear to have a high turnover of staff and have difficulty achieving appropriate outcomes. This is mirrored in the performance of similar bodies in other States, in particular the Health Care Complaints Commission of New South Wales, which has been criticised following inquiries into Campbelltown Hospital.

Peer review by competent colleagues is the best form of accountability.

ENCOURAGING AVAILABILITY OF MEDICAL PRACTITIONERS TO PROVIDE CLINICAL SERVICES ACROSS THE STATE

Australian Medical Graduates and Australian Qualified Medical Specialists should be the goal. In my view these people tend to have predictable quality with less variation in standard than their foreign counterparts. There is a tremendous variation in the supply of Medical Specialists to regional centres between the different States. This is largely a function of conditions of service. This may mean that consideration of issues in relation to conditions of service may be within the scope of your inquiry.

To provide more Medical Specialists, the number of training places needs to be expanded. This involves College approval, State Government funding of the position and encouragement of Medical Colleges to have a regional training component to their training scheme.

If overseas graduates are required, then clearly we need more streamlined assessment. My proposal would be one point of contact consisting of representatives from the Medical Board, the Colleges and Immigration who can work through a transparent process to approve or deny specialist recognition. In short the benchmark should be that their training should be of a similar length and nature to training in Australia and if that is the case then they may be allowed to

access the final Australian Specialist exam in that area before gaining specialist recognition.

(Appendix D.1). There are a variety of issues of relevance to attracting specialists to work in the country. These have been outlined in some detail in the paper I presented to the National Australian and New Zealand Intensive Care Society meeting in Canberra in 2000. I have enclosed a text of that speech.

(Appendix D.2). Really making sufficient change to the number of Specialists that work for Queensland Health will not solve the problems unless there is dramatic change to the organisation of Queensland Health. In this respect I think a lot can be learnt from the New South Wales model. New South Wales has adopted a Resource Distribution Formula (RDF). This is a method of population based funding for public health care taking into account confounders which influence the consumption of public health requirements, including age, percentage of people with private health insurance and other issues such as aboriginality. The focus is on larger districts where one senior administrator is in charge of both hospital and out-patient care. Often these larger areas reflect patterns of referral flow. These areas would be easier to identify in Queensland than New South Wales because of Queensland's decentralised nature. In short an area is funded for public health care and the Senior Administrator in that area is responsible for delivery of public health services both in the area and payment for public health services administered to patients from post codes within that area, when that is administered in other areas. This has a number of very important consequences.

1. It appears fair to all involved.
2. It avoids the situation where for budgetary reasons patients are transferred to distant hospitals for reasons other than medical need. Quite clearly this is an issue with more expensive patients, particularly intensive care patients.
3. It allows re-definition of the role of hospitals within an area under the guidance of the senior administrator.
4. It removes the imperative for elective surgery, at all costs. In my view this had a major role in the lack of regulation over surgical procedures in Queensland rural centres recently.

I believe a system along the lines of the Resource Distribution Formula would be a major innovation for public health care delivery in Queensland and should be actively pursued as an option. A summary of the resource distribution formula and its functionality is included as Appendix D.2.

Finally conditions of service for Rural Specialists need to be examined. It is impractical to expect someone to work in a rural centre, be on call a significant amount of the time, work with very junior medical staff and do all that for the same conditions as they could have working at a Brisbane Tertiary Referral Centre with senior registrars performing most of the after hours duties with only remote Specialist supervision. Clearly that is just not realistic. A far more practical approach would be to encourage good Australian trained Specialists to move to a rural

centre to provide services in both the public and private sector, working publicly as visiting medical officers. In New South Wales such public work is remunerated at a sessional rate which is approximately one and a half times the Queensland Visiting Medical Officer sessional rate. In Victoria my understanding is that this is done on a Medical Benefits Schedule fee for service basis. This is also greater than the Queensland VMO rate of remuneration. In both of those States the emphasis in terms of rural specialists is remuneration of the specialist in proportion to the amount of patient care provided.

This gives the VMOs the incentive to provide high quality care in a very efficient manner. It is interesting to note that Queensland Health thinks it is quite reasonable to fund its hospitals on a performance basis but not fund the medical staff that work in them on this basis. While Queensland desires Staff Specialists and New South Wales emphasises Visiting Medical Officers for this type of work, then Queensland will have trouble reversing the flow of Specialists across the border. It is interesting to note that a city like the Gold Coast has a Public Hospital in Queensland with chronic difficulty of staffing with Medical Specialists and a Public Hospital in New South Wales (at Tweed Heads) that experiences no such difficulty. It would be interesting to look at the efficiency of utilisation of the operating theatres at both ends of the Gold Coast. I have no data on this but I suspect that the Tweed theatres would prove to be far more efficient.

(Appendix D.3). I have enclosed the current specialist medical staffing for Lismore Base Hospital in New South Wales. This is a town of Bundaberg's size draining a larger regional population. This is a model which should be examined closely. With fourteen specialist anaesthetists there are seventy-two specialist VMOs in total all providing service to public and private patients. Perhaps the Commission should consider why there is such a discrepancy between Lismore's and Bundaberg's medical staffing.

(Appendix D.4). I have enclosed a recent newspaper article by two doctors – a Specialist and a General Practitioner – with experience of rural medicine which expands on these issues.

(Appendix D.5). This is not a direction Dr Steve Buckland wanted to take the Queensland Health System according to the enclosed newspaper article. I think Dr Buckland's approach is most unwise. In this area I think you get what you pay for.

(Appendix D.6). This is evidence that events at Bundaberg and Hervey Bay do not represent the actions of some poorly administered hospitals but are consistent with the overall direction of planning for public health delivery in Queensland.

"Reversal of Flow" is a Queensland Health Policy which reduced the size and capability of Tertiary Referral Hospitals in the late 1990's. This was supposed to be matched by development of peripheral services – though that proved elusive. This meant that referral centre capacity was limited at the same time as peripheral hospitals could not adequately care for patients. "Reversal of Flow" is no longer

discussed by Queensland Health but I believe that patients were harmed (and some could have died) as a result of this misguided and poorly implemented policy. In reality events at Bundaberg and Maryborough can be looked upon as the logical conclusion of a formal Queensland Health Policy rather than the unwise actions of Junior Administrators.

In conclusion I have indicated that concerns were raised in writing with Senior Management in Brisbane in Queensland Health in relation to surgical issues arising in Bundaberg and in Hervey Bay. I have highlighted the advantages and short comings of competent peer review, examination of outcome data and a separate body for complaints. In relation to the supply of medical practitioners, clearly Australian Medical Graduates with Australian Specialist qualifications are the goal for regional practice. Should overseas graduates be required, the process needs to be streamlined. Major problems occur in the organisation of Queensland Health which could be addressed by looking at health systems interstate. Conditions of service of Rural Specialists need to be addressed to attract people to these towns. Events at Bundaberg and Hervey Bay can be viewed as the logical result of Queensland Health's former Policy of Reversal of Flow.

I would be happy to appear before your Commission of Inquiry to discuss these and related issues.

Yours sincerely

Dr Peter Cook
Complex Wide Director of Adult Critical Care Services
Mater Adult Hospital

Encl: Appendix E.1. Curriculum Vitae, Dr Peter Cook

APPENDIX A 1

Kingsbury Alison

From: Cook Peter
Sent: Friday, 4 July 2003 8:51
To: Kingsbury Alison
Subject: FW: Meeting

-----Original Message-----
From: Cook Peter
Sent: Thursday, 3 July 2003 9:49
To: Skinner Jennifer
Cc: Cumberland Margaret
Subject: Meeting

Jenny,
I've arranged with Margaret to meet with you at 0900 Friday 4/07/03. Things to be discussed include:
1 ICU implications from the meeting with Karen Roach ✓
2 What to do about an oesophagectomy patient transferred from Bundaberg - clearly this is not appropriate surgery to be done at a center with such a small level of support services particularly ICU. How do we give feedback on this issue.
NSW patients in MAH ICU ✓
4 Assistance to QLD regional ICU's ✓
5 Ram Sistla leaving and what our plans are beyond this ✓
6 Airway issues in MAH afterhours ✓
7 A disaffected male nurse resigning from MAH ✓
8 A heads up about my recent involvement with the Lismore coroner about a sad case ✓
9 My contract ✓
10 Any other business
Regards,
Peter

ANNEX A 2

MATER ADULT INTENSIVE CARE UNIT

7th July 2003

Ms Jenny Skinner
Executive Officer
Mater Public Hospital

Dear Jenny

This letter is to follow up the discussion we had on Friday concerning the case of P.18 . P18 is a 63 year old male who was admitted to Mater Adult Hospital Intensive Care on 20th June 2003 on transfer from Bundaberg with prolonged post-operative complications following an oesophagogastrectomy on 6th June for adenocarcinoma of the gastro-oesophageal junction. He had numerous complications in Bundaberg requiring multiple returns to the operating theatre: two for breakdown of his anastomosis in his chest and one for complications arising from a jejunostomy. His ongoing respiratory failure on transfer was complicated by his having intercurrent nosocomial pneumonia.

He had an uncomplicated course in Intensive Care at Mater Hospital in Brisbane and was discharged on 30th June to the ward and he is currently still an in-patient on 7B.

The issue that arises from this case is whether an operation of this type is appropriate to be performed in a centre such as Bundaberg. I have had discussions with Dr Chris Elmes, his Surgeon here at the Mater and Dr Darren Keating, Director of Medical Services, Bundaberg Base Hospital concerning these issues. From my experience Interstate the mechanism whereby these issues are reviewed involve a two-fold approach focusing on the role delineation of the hospital and the accreditation of the surgeon. What is the role delineation of Bundaberg Base Hospital? In short, does Bundaberg Hospital have sufficient ancillary services to assist with post-operative management of a patient having such extensive surgery as an oesophagectomy? You are aware that New South Wales has an extensive

role delineation process, which can be used as a guideline to accrediting surgeons for different types of procedures in different types of institutions. My understanding is Queensland Health is embarking on this process at present, however, it is currently incomplete. In short, if a hospital is unable to provide a robust level of intensive care including prolonged respiratory support, it would be my view that major surgery such as oesophagectomy should not be performed in these centres. It would have been far less complicated, expensive and dangerous to have transferred the patient prior to the oesophagectomy to a centre with a major standing in this type of surgery.

A second issue relates to the accreditation of the surgeon. Not having a surgical qualification I feel that it is not my place to produce firm recommendations on this issue. It is relevant to note that from the oesophagectomy operation report on 6th June, the person writing the report stated (it is a little hard to read his handwriting) that "oesophageal/gastro-oesophageal junction mass mobile and palpable. Surrounding lymph nodes palpable, oesophageal wall and lesser curve of stomach". I note the histology report had 9 of 14 metastatic nodes and stated that macroscopically there were numerous enlarged involved lymph nodes identified at the gastro-oesophageal junction, at the lesser curve and greater curve. A second surgical opinion would be required to decide whether with this finding continuing with the surgery is appropriate. My understanding is that current approaches are to use a staging laparoscopy to exclude those with extensive disease from further invasive surgery.

Thank you for reviewing this case and deciding what future action is appropriate.

Yours sincerely

Dr Peter Cook
Complex Wide Director of Adult Critical Care Services
Mater Adult Hospital

P18

Queensland Government

Queensland Health

20/6/03

Dr Peter Cook
Intensivist
Mater Hospital
Brisbane.

fax: 3840 1503

P18

Dear Dr Cook.

Thankyou for accepting transfer of the above patient. As you are aware for the past 2 days there have been no beds available for this gentleman at the Royal Brisbane, Princess Alexandra or Gold Coast Hospital. Please find attached the front sheet for this Gentleman. Other information will be transferred down with him. Thankyou for your help in the management of this gentleman.

Sincerely

C. Kennedy

Carl Kennedy
ICU resident for Dr NM AKSIRADAM
Bundaberg Base Hospital

FCA (SA)

Queensland Government

Queensland Health

20/6/03

Bundaberg Hospital

P18

D. Peter Cook
Intensivist
Mater Hospital
Brisbane.

Dear D. Cook.

Thankyou for accepting transfer of the above gentleman. He had a oesphagogastrectomy on the 6/6/03 for Adenocarcinoma of the GOJ. Post operatively he has had a complicated history. Previous to operation he had a history of:

IHD - CABG 1996
HTN -
Type II DM.

Post operative

Respratory
- extubated after theatre
- Developed (L) pleural effusion
  ICC inserted 7-6-03 – 13-6-03.
- ↓ sats CPAP 8-11-6-03
- Attempted Gastrografin swallowed failed due to equipment failure possible aspiration
- Returned to ward 13-6-03
- ↓ Sats CPAP
- ICC reinserted 15/6/03 ~ 2.5 C drained

Queensland Government

Queensland Health

Resp. cont.

- 16-6-03 Returned from theatre and remained ventilated since
- Bronchoscope extensive mucous plugging (L) lung.

Cardiovascular.

7-6-03 went into AF started Amiodarone reverted to SR (NR ≤ 0-03)
- Non Stemi noted 9-6-03 ck 694 tnt 0.43.
- Amiodarone infusion ceased 17/6/03 Recommenced 18/6
- 19/6/03 - transfused 3 units Packcells post op.
- Inotropic support Noradr ceased 19/6/03

GIT - Jejunostomy feeds D1
- No leak at neck anastomosis noted on Barium swallow
- 2 x wound dehiscences 12/6 — Repaired in OT
  16/6 — Repaired in OT
- 18/6/03 - leakage from jejunostomy site return ~~from~~ to OT
  - Site oversewn.

Sincerely
C. Kennels
Carl Kennels
Resident for
Dr Arsiradam
Bundaberg Base Hospital

Queensland Government

Queensland Health

Bundaberg Hospital

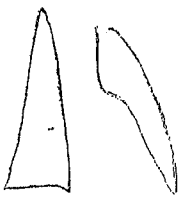
P18

20/6/03

Currently Ventilated.
Size 8 ETT 21cm at lips

SIMV
Rate 16

FiO_2 70% pCO_2 42.6
PEEP 10 pO_2 85.1
pH 7.434



↓ AE
L Base.

PR 74 SR
BP 118/76 Manual Art 92/46 (poor trace)

CVP 11
UO 40-60mls/hr.

Amiodarone 1200mg/24hrs

Sedated. Midazolam 2mg
Morphine 4mg

Insulin Infusion.
Alsaline + 40mmol KCl

Central line inserted 18/6/03
(L) ICC inserted 15/6/03.
Art line inserted 16/6/03

On TPN.

Abdo
soft
BS ✓

Pressure ulcer
Sacral area dressed.

18-06-03.

Upper GIT Surgical Unit

Princess Alexandra Hospital

Queensland Government

Queensland Health

Re:

P18

Transfusion for deepening Hb 63yrs ♂ with multiple complications post transhiatal oesophagectomy on 06.06.03.

Hx progressive dysphagia, wt loss 6/52.

OGD 21.05.03 fungating oesophageal lesion 30-35cm

Bx from OGD Barretts oesophagus (intestinal metaplasia) + invasive adenocarcinoma

CT chest abdomen : no evidence metastatic disease

booked transhiatal oesophagectomy

PMHx/SHx Migraine

hypertension

CABG (x4) 1996 / IHD

total occlusion (L) ICA

? childhood epilepsy

Outlined post operative course.

RESPIRATORY post op LEFT sided pleural effusion . ICC not draining → removed

estimated required CPAP

weaned , CXR white out (L) lung field , ICC reinserted still ↑ drainage

discoordinated swallow

attempted gastrojejunostomy feeding tube to technical reasons in XR

likely aspiration , mucous plugs suctioned with bronchoscope

re-insertion (L) ICC V 3.5L seros sanguinous fluid

→

RESPIRATORY CONT. ICC drainage tapered

new onset milky dile ICC (?) chyle (?) feeds. sample sent

now ETT FiO_2 55% PEEP 7.5cm SIMV sats 97%

pH 7.42 PCO_2 45.5 PO_2 111 CXR small (L) effusion

CARDIOVASC no inotropic support

bp 125/80 PR 99

UO consist >40mlhr^{-1}

GIT post op discoloured swollen

jejunostomy feeds from D1 post op

minimally tolerated PO fluid

single swollen bowel — no leak ☺ anastomosis in neck.

problems with aspiration PO ceased + NGT suction started

cough and CPAP → normal deficiency x2 requiring

return to theatre and retain. sutures.

bowels working and good bs with soft abdomen

24hrs ago milky fluid from midline laparotomy normal

(?) enterocutaneous fistula

jejunostomy feeds ceased and TPN commenced

NEURO when not sedated GCS 15 and no focal neurology.

ENDOCRINE currently on sliding scale IV insulin and euglycaemic.

Surgeon Dr J. Patel happy to manage surgical complications ☺ Bundaberg Base Hospital however ICU unable to keep patient on ETT >48hrs ∴ ICU requesting unintubated transfer of patient.

cont.

Queensland Government

Queensland Health

Other information

Medications: Acarbose 50mg PO tds
metformin 1.5gm PO bd
simvastatin 10mg PO nocte
amlodipine 10mg PO nocte
gliclazide 160mg PO bd
perindopril 4mg PO mane

Social: Supportive wife + 4
ex-smoker 30 pkyr (quit 11yrs ago)
1-2 std Etoh / week

Allergies: NKDA

Please find enclosed a copy of the operative notes and a letter from the Bundaberg Base Hospital ICU team.

EMMA IBRAS 0061

BUNDABERG HOSPITAL

P18

HOSPITAL OPERATION REPORT

DATE: 6-6-3

START: FINISH:

TOURNIQUET TIME ON OFF

SURGEON/ASSISTANT Patel / Gaur / Riddell

ANAESTHETIST Younis

G.A ☒ L.A. ☐

DIAGNOSIS & OPERATION PERFORMED Adenocarcinoma - GE junction with gross metastasis to pericardial & para-esophageal nodes.
TRANSHIATAL OESOPHAGECTOMY and PARTIAL GASTRECTOMY for ADENOCARCINOMA OESOPHAGUS

DETAILS OF OPERATION (including FINDINGS, PROCEDURES, CLOSURE)

supine position, sterile technique, povidone iodine to op site

midline epigastric laparotomy including around umbilicus

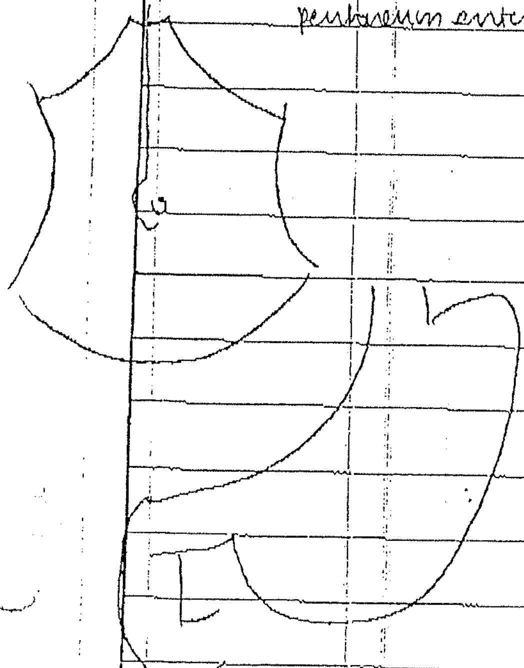
peritoneum entered liver palpated NAD

peritoneum inspected NAD

oesophageal / GOJ mass mobile and palp

surrounding LN palp oesophageal wall

and lesser curve stomach



Stomach mobilised, short gastrics ligated

(R) gastroomental arcade preserved. (L)A lig taken

stomach freed from greater omentum

lesser sac entered

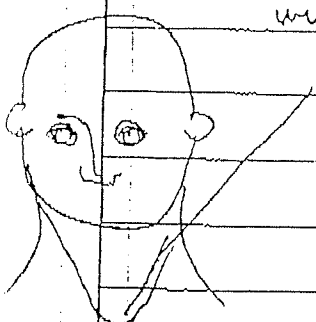
Coeliac nodes palpated NAD

Hiatus stretched and oesophagus mobilised from below

left gastric pedicle identified and ligated

stomach freed from hepatogastric ligament, ligament taken

with specimen @ end



LEFT neck incision medial to SCM

omohyoid medial body divided

Thyroid retracted medially with remaining straps.

Carotid and IJ preserved

Superior thyroid pedicle identified and preserved

blunt dissection to oesophagus. Inadvertent oesophagostomy

oesophagus mobilised from above into mediastinum

OPERATION RECORD

HOSPITAL OPERATION REPORT

BUNDABERG HOSPITAL SEX UR NO

P18

DATE: 6.6.3

START: FINISH:

TOURNIQUET TIME ON OFF

SURGEON/ASSISTANT Patel | Ingles.

ANAESTHETIST Young

G.A ☒ L.A. ☐

DIAGNOSIS & OPERATION PERFORMED

Carcinoma op stomach (page 2)

DETAILS OF OPERATION (including FINDINGS, PROCEDURES, CLOSURE)

Oesophagus @ level normal cardiac anatomy divided and oversewn distal end attached to 30 F ICC and pulled through oesophagus and stomach for normal alignment

cardias, fundus and part of corpus stomach taken with GIA staples → histopathology

also omentum, LN and lesser omentum as noted

pyloroplasty performed (incised longitudinally and sewn transversely) as vagi identified to stomach

gastric stump attached to ICC and pulled via mediastinum into (L) neck. Simple loop ended to side anastomosis oesophagus to stomach. Physiological normal saline lavage, haemostasis ✓

feeding jejunostomy, knotted and sutured to ant abdo wall Ryle tube ✓ sprig ✓

drain from oesophagogastric anastomosis also passed into mediastinum Bellevac ✓

platysma closed staples to skin in neck

abdomen closed in layers and staples to skin

sterile dressing

to ICU

please see postop notes

16285 0061

OPERATION RECORD

HOSPITAL OPERATION REPORT

Bundaberg Hospital SEX UR NO

P18

DATE: 12/6/3

START: FINISH:

TOURNIQUET TIME ON OFF

SURGEON/ASSISTANT PATEL / COLEMAN

ANAESTHETIST YOUNIS G.A ☐ L.A. ☐

DIAGNOSIS & OPERATION PERFORMED

REPAIR ABDO DEHISCENCE

DETAILS OF OPERATION (including FINDINGS, PROCEDURES, CLOSURE)

betadine prep

staples removed

findings - dehiscence fascial layers due to broken suture

- no pus fluid

- no evidence infection

wound edges sharp

~~debridement~~

closure

1 - nylon

clips to skin

interrupted sutures x 3

Post op - ICU

continue physiotherapy duties tomorrow

OPERATION RECORD

BUNDABERG HOSPITAL SEX UR NO

P18

HOSPITAL OPERATION REPORT

DATE: 15.6.03

START: 0105. FINISH: 0140

TOURNIQUET TIME ON OFF	SURGEON/ASSISTANT	Patel / Ingras	
	ANAESTHETIST	Joiner	G.A ☑ L.A. ☐

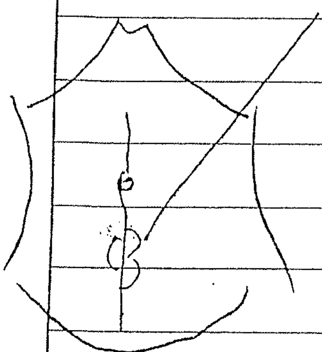
DIAGNOSIS & OPERATION PERFORMED

MIDLINE LAPAROTOMY WOUND DEHISCENCE : REPAIR.

DETAILS OF OPERATION (including FINDINGS, PROCEDURES, CLOSURE)

supine, aseptic technique, gown/glove/drape

povidone iodine



obvious wound dehiscence with SB via wound

staples and deep sutures removed

peritoneal lavage 2L warm saline

wound open end to end

4 T retention sutures.

fascia closed interrupted figure of 8

staples to skin

reten. closed

melolin / combine.

LWTS 006

OPERATION RECORD

MR73a

HOSPITAL OPERATION REPORT

BUNDABERG HOSPITAL

P18

(Patient Label Here)

DATE: 18/6/03.

START: 1925hrs FINISH: 2040hrs.

TOURNIQUET TIME
ON
OFF

SURGEON/ASSISTANT PATEL | IGRAS

ANAESTHETIST YOUNIS

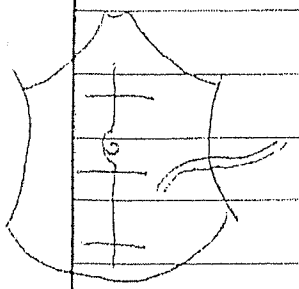
G.A ☑
L.A. ☐

DIAGNOSIS & OPERATION PERFORMED

EXPLORATORY LAPAROTOMY AND REPAIR LEAKING JEJUNOSTOMY

DETAILS OF OPERATION (including FINDINGS, PROCEDURES, CLOSURE)

aseptic technique, sterile gown | glove | drape, povidone iodine



old laparotomy wound opened

peritoneal cavity filled with milky fluid

jejunostomy separated from anterior abdominal wall

jejunostomy tube removed

enterostomy jejunum closed vicryl 3/0

thoroughly lavage peritoneal cavity 4 L N Saline

to clear fluid

anterior abdominal wall closed in layers

0 nylon looped continuous to fascia

re-entered intermittent 0 nylon figure of 8 to fascia

retention sutures x 4

staples to skin @ 5cm intervals

sterile dressing melolin | combine

CVP LEFT subclavian replaced with triple lumen. UMTS 006 |

central line

UMTS 006 |

OPERATION RECORD

MR73A

BUNDABERG BASE HOSPITAL
Department of Medical Imaging - Patient Report

Patient Name: P18
UR Number:
Series Number: 1 Sex: M
Attend.Date: 26 MAY 03
Current Date: 03 JUN 2003

Examinations: CT - CHEST,CT - ABDOMEN
Referred: DR J PATEL
Location: CL

CLINICAL HISTORY:
DYSPHAGIA

CT CHEST AND ABDOMEN
TECHNIQUE:
A post contrast scan was performed from the apex of the lung to the symphsis pubis.

FINDINGS:
There is moderate thickening of the lower oesophagus. The oesophageal mass appears to extend to the cardia of the stomach. There is an enlarged coeliac lymph node measuring 12mm in diameter.
There does not appear to be an extension of the oesophageal tumour within the thorax.
No evidence of any pulmonary metatastatic disease.
The liver appears clear. No other abnormality demonstrated.

COMMENT:

BUNDABERG BASE HOSPITAL
Department of Medical Imaging - Patient Report

Patient Name: P18
UR Number:
Series Number: 1 Sex: M
Attend.Date: 26 MAY 03
Current Date: 03 JUN 2003

Examinations: CT - CHEST,CT - ABDOMEN
Referred: DR J PATEL
Location: CL

Soft tissue tumour of oesophagus extending into cardiac consistent with oesophageal carcinoma. Enlarged coeliac lymph node.

DS:2918

DR IAN TAYLOR

DICTATED-BUT NOT READ

QUEENSLAND HEALTH PATHOLOGY AND SCIENTIFIC SERVICES

QHPS-Bundaberg Hospital
P.O.Box 34
Bundaberg, QLD, QLD 4670
ph 07-41502530
fax 07-41512539

Patient Location	Intensive Care Unit (BNH)	UR No	
Consultant	Patel, Jayant (BNH	Name	P18
Req. Officer	Dr Emma Igras	Given Name	
	Bundaberg Hosp	DOB	
	Bourbong St	Patient Address	
	Bundaberg Qld 4670		

Collected ??:?? 06-Jun-03 Lab No 13782-7445

Histopathology Report Biopsy No:

HISTORY
Oesophagogastrectomy sample. Transhiatal resection. Palpable nodes along oesophagus and at Gastro-oesophageal junction. Previous biopsy adenocarcinoma by endoscope.

MACROSCOPIC
Oesophagus: The specimen consists of oesophagus and proximal stomach. Overall the specimen measures 180x150x up to 35mm. The portion of oesophagus measures 105mm in length and has a circumference of between 35mm and 50mm. The portion of stomach measures 120x120mm. Bridging the Gastro-oesophageal junction there is a large centrally ulcerated tumour with raised rolled edges that measures 55x40mm. Two thirds of the lesion lies on the gastric side of the junction and one third lies on the oesophageal side. The lesion lies 84mm from the proximal resection margin and 35mm from the distal resection margin at its closest point. Numerous enlarged involved lymph nodes are identified at the gastro-oesophageal junction, at the lesser curve, and greater curve. One of the masses on the greater curve adjacent to the left lateral end of the stapled resection margin, is an irregular tumour nodule which appears to be involving the fatty serosal tissue. Sectioning through the tumour mass reveals that it infiltrates the full thickness of the muscular wall of the underlying oesophagus/stomach. Tumour abuts the external margin of the resection. No other mucosal lesions are identified. (1A) shave proximal resection margin; (1B&C) distal resection margin; (1D-1F and 1G-1I) complete longitudinal section of tumour trisected, blocked from oesophagus to stomach; (1J) adjacent uninvolved Gastro-oesophageal junction; (1K) random normal section of stomach; (1L) irregular serosal deposit along greater curve with overlying gastric mucosa; (1M) greater curve nodes; (1N) lesser curve nodes; (1O-1R) Gastro-oesophageal junction nodes.
CR[FM]

MICROSCOPIC
Oesophagus: Sections confirm a large adenocarcinoma involving the gastro-oesophageal junction. Although the superficial part of the tumour appears moderately differentiated, the deep parts of the tumour are poorly differentiated. The tumour invades through the full thickness of the muscularis propria and into the adventitial fat. The primary tumour does not appear to involve the external surface of the oesophageal resection margin. There is evidence of lymphatic invasion and 9 out of 14 lymph nodes sampled contain metastatic adenocarcinoma. Positive nodes are present along the greater and lesser curves of the stomach. Tumour focally involves the serosal surface adjacent to a lymph node along the greater curve. Sections of the distal oesophagus show intestinal metaplasia in keeping with Barrett's oesophagus. The squamous mucosa of the oesophagus appears normal. The distal resection margin comprises gastric body-type mucosa. This shows a mild increase in mucosal plasma cells but it shows no evidence of intestinal metaplasia or dysplasia. Helicobacter-like organisms are not identified. The

ANATOMICAL PATHOLOGY

QHPS-Bund...
P.O.Box 34
Bundaberg, QLD, ...
ph 07-41502536
fax 07-41512539

Patient Location	Intensive Care Unit (BNH)	UR No	P18
Consultant	Patel, Jayant (BNH	Name	
Req. Officer	Dr Emma Igras	Given Name	
	Bundaberg Hosp	DOB	
	Bourbong St	Patient Address	
	Bundaberg Qld 4670		

Collected ??:?? 06-Jun-03 Lab No 13782-7445

Histopathology Report Biopsy No:

proximal oesophageal and the distal gastric resection margins show no evidence of dysplasia or malignancy.

SUMMARY

Oesophago-gastrectomy Specimen: Adenocarcinoma of the gastro-oesophageal junction; invasion through full thickness of muscularis propria with no definite involvement of circumferential oesophageal margin; lymph node metastases present(9/14); focal involvement of gastric serosa; proximal and distal margins clear.
(SB)

Reported by
Dr L Francis
QHPS-RBHC
REPORTED: 12/6/03
T-56000 M-81403

ANATOMICAL PATHOLOGY

Dr N Buxton
Director of Pathology
Tel. 07-49207301

Dr H Krause
Staff Pathologist
Tel. 07-49207303

Please discard any previous ANATOMICAL PATHOLOGY report of the same page number printed before : 07:00 13 Jun 2003

Copy sent to:

MR 26

APPENDIX A 2

Cook Peter

From: O'Donnell John
Sent: Tuesday, 24 May 2005 2:02 PM
To: Cook Peter
Subject: FW: Patient from Bundaberg into ICU's sixth bed

FYI

Dr John O'Donnell
Chief Executive Officer
Mater Health Services Brisbane Limited

phone 07 3840 8540

-----Original Message-----
From: O'Donnell John
Sent: Monday, 23 May 2005 4:42 PM
To: 'Tracey Silvester'
Subject: FW: Patient from Bundaberg into ICU's sixth bed

.s discussed today.
JOD

Dr John O'Donnell
Chief Executive Officer
Mater Health Services Brisbane Limited

phone 07 3840 8540

-----Original Message-----
From: O'Donnell John
Sent: Monday, 23 June 2003 8:58 AM
To: 'Tracey Silvester'
Cc: Skinner Jennifer; Cook Peter
Subject: FW: Patient from Bundaberg into ICU's sixth bed

Dear Tracey/ acting Karen,

When we met in Dan Bergen's office some weeks ago to discuss ICU services, and agreed to cooperate in times of crisis , I noted (again) that you fund us for a specific volume of services and additional cases which we 'had to' admit to play our part in the system, despite not being funded, would be dealt with on their merits. The case described below is one such instance. Of the $2.4m additional funding recently allocated for ICU services, of which I understand at this time not one dollar has been allocated to Mater, surely some should be used tor e-open beds permanently, or at very least be sued to fund cases such as this when activity peaks.

I look forward to your response to the principle of funding this man's care; and also your approach to funding of essential services above the service agreement.

JOD

Dr John O'Donnell
Chief Executive Officer
Mater Health Services Brisbane Limited.
phone 07 38408540

-----Original Message-----
From: Cook Peter
Sent: Friday, 20 June 2003 17:31
To: O'Donnell John
Cc: Skinner Jennifer
Subject: Patient from Bundaberg into ICU's sixth bed

Dear John and Jennv.
We have admitted P18 from Bundaberg Base Hospital to our sixth ICU bed at MAH. You asked me to contact you when this occurred so that you could bill QLD health. P18 has ongoing respiratory

failure after complications from oesophageal surgery. Jenny has a copy of a letter from the Bundaberg ICU doctor stating that the patient has been refused at RBH, PAH and Gold Coast. They initially rang asking for transfer on 18/06/03 and we didn't have a bed till 20/06/03. They couldn't get in anywhere else in the interval. In reality an oesophagogastrectomy like P18 had should not be done at a hospital without robust ICU backup.
Our other patients are
XXXXXX Guillain Barre transferred from Toowoomba
XXXXXXX Pneumonia and acute on chronic renal failure
XXXXX Lymphoma and acute on chronic renal failure
XXXXXXXX Respiratory failure post elective aortic surgery at MAH
XXXXXXX Respiratory failure post elective orthopaedic surgery at MAH

Regards,
Peter

Mater
MATER PUBLIC INTENSIVE CARE UNIT
Exceptional People. Exceptional Care.

6th May 2005

Dr David Molloy
Watkins Medical Centre
225 Wickham Terrace
BRISBANE 4000

Dear David

I am writing to you in your role as President of the Queensland Branch of the Medical Association and seeking your input as to what I should do with the enclosed correspondence.

The letter is reasonably self explanatory. This was written to the Executive Officer of the Mater Public Hospital in July 2003 after transfer of a patient who had an oesophago-gastrectomy performed at Bundaberg Hospital. It was written at the request of Jenny Skinner and Jenny discussed the contents of this letter with the Queensland Health Southern Zone Management Unit. Jenny fed back to me at the time that the Southern Zone Management Unit was going to refer the matter on to the Central Zone Management Unit for action. It appears very unfortunate that alarm bells did not start ringing at this time, in view of subsequent events. I am after your advice as to whether this letter falls within the brief of the current inquiry as to aspects of Bundaberg Hospital.

This letter is indirect evidence that the Zonal Management Units were aware of concerns about surgical performance at Bundaberg Hospital as early as July 2003. In my view it is clear from this that the issues at Bundaberg were not isolated, or restricted to management at Bundaberg. In my view this is a crucial factor for the current inquiry.

Another issue that needs to be addressed, in my view, is the connection between funding for a hospital and the achievement of a certain number of ~~waited~~ separations in terms of patient care. This means that there is an emphasis in the hospital on through-put of patient care as the number one priority. Alternatively, restriction of scope of practice of clinicians within the hospital may result in the ~~waited~~ separation target not being met, and a reduction in the budget for the hospital for that year. Therefore the officers at the hospital who have a role in regulation of clinical practice realise that if they restrict the clinical practice of doctors at the hospital, the hospital may have subsequent budgetary problems. Clearly this is a tremendous conflict of interest, and needs to be addressed as part of the current inquiry.

../2

Thank you for considering these issues. I will await your advice. Please feel free to phone me if you would like to discuss these matters further. I am contactable on my mobile phone

Yours sincerely

Dr Peter Cook
Complex Wide Director of Adult Critical Care Services
Mater Adult Hospital

UpToDate ONLINE 13.1

APPENDIX A 5.

Surgical management of localized esophageal cancer

Scott Swanson, MD

UpToDate performs a continuous review of over 330 journals and other resources. Updates are added as important new information is published. The literature review for version 13.1 is current through December 2004; this topic was last changed on November 29, 2004. The next version of UpToDate (13.2) will be released in June 2005.

INTRODUCTION — Cancer of the esophagus is a highly lethal malignancy. Approximately 14,200 people are diagnosed each year in the United States, and 13,300 are expected to die from this disease [1]. According to data from the National Cancer Institute's Surveillance, Epidemiology and End Results (SEER) Program, the five-year survival rate for patients with esophageal cancer has improved only modestly over the last 30 years, from 5 percent in the years 1974 to 1976, to 12 percent during the period 1992 to 1998 [1]. These dismal results are thought to reflect the propensity for early tumor dissemination and advanced stage of disease at diagnosis [2].

The optimal treatment approach for patients with localized esophageal cancer is one of the most controversial areas in oncology. Surgery has been the standard treatment for early stage disease, but its utility as monotherapy has been challenged [3,4]. Only 30 to 40 percent of patients have potentially resectable disease at presentation, and in many series, only 5 to 20 percent of those undergoing surgery alone for clinically localized disease are alive at three to five years [5-9].

This poor long-term outcome, and the predominance of distant failure prompted the incorporation of chemotherapy and radiation into the treatment plan, most often as induction (neoadjuvant) therapy. Although preoperative chemoradiotherapy increases the likelihood of achieving a complete resection [10], the survival benefit of such an approach has been difficult to demonstrate. Some centers utilize minimally invasive techniques (ie, thoracoscopy, laparoscopy, endoscopic ultrasound (EUS) with fine needle aspiration biopsy of suspicious lymph nodes) to select patients with node-positive disease for neoadjuvant approaches; however, there is no data to support a preferential benefit in this subgroup [11]. Nonetheless, neoadjuvant chemoradiotherapy remains a popular, albeit controversial approach for localized esophageal carcinoma. This topic is discussed in detail elsewhere, as is the use of endoscopic mucosal resection for early stage disease. (See "Radiation therapy; chemoradiotherapy; and neoadjuvant approaches for localized esophageal cancer" and see "Overview of endoscopic mucosal resection of gastrointestinal tumors").

Interest in surgery alone has increased over the past several years for several reasons, one of which is the lack of a clear survival benefit from neoadjuvant approaches. In addition, more favorable results from resection alone have been noted in contemporary series, possibly due to refinements in surgical technique and perioperative management [12]. As an example, long-term survival rates in the surgery alone arms of two recent randomized trials that compare multimodality therapy with surgery alone were approximately 36 percent [13,14]. Furthermore, retrospective series using more extensive surgical procedures for localized disease report five-year survival rates in excess of 40 percent, in some cases, even in patients with node-positive disease [15-23].

Several surgical approaches for treatment of localized esophageal cancer are available, and will

be discussed here. Treatment of locally advanced unresectable disease, neoadjuvant and nonsurgical approaches to localized disease, and the epidemiology, clinical manifestations, diagnosis, and staging of esophageal cancer are discussed elsewhere. (See appropriate topic reviews).

THORACIC ESOPHAGEAL CANCER — Patients with either adenocarcinoma or squamous cell carcinoma (SCC) involving the middle or lower third of the esophagus generally require total esophagectomy because of the risk of submucosal skip lesions [24-26]. In selected cases (eg, clinical stage I disease arising distally in the setting of Barrett's esophagus), a more limited resection can be considered, although the optimal approach to such patients is unknown [27-29]. If such an approach is contemplated, intraoperative analysis of the surgical margins must show no evidence of Barrett's changes prior to concluding the procedure.

Techniques and outcome — Esophagectomy is a technically difficult operation and the complication rate is high due to the anatomic challenges of the procedure. The choice of surgical approach depends upon many factors:

- Tumor location and length, submucosal extension, and adherence to surrounding structures
- The type or extent of lymphadenectomy desired
- The conduit to be used for replacement
- Whether induction therapy was administered
- Concern for postoperative bile reflux
- The preference of the surgeon

The most popular methods used in North America are the transhiatal [30] and Ivor-Lewis (transthoracic) approaches [31]. At our institution, a combined approach to en bloc esophagectomy is preferred, while in other countries, particularly Japan, esophagectomy plus an extended (three-field) lymphadenectomy is advocated. These techniques are described in detail below.

Although the gastric interposition is most commonly used as a conduit for reconstruction following esophagectomy, each of the above-mentioned exposures can be combined with a different choice, such as the jejunum or the colon [32-36]. These conduits are resistant to the effects of gastric acid, and they have a shape similar to the native esophagus. However, their use requires two additional anastomoses, and in the case of the jejunal interposition, there may be difficulty in reaching to the neck.

Transhiatal esophagectomy — In the transhiatal esophagectomy (THE), first performed in 1936 [30] and reintroduced in the 1970s, exposure is provided by an upper midline laparotomy and a left neck incision [30,37]. The thoracic esophagus is bluntly dissected, and a cervical anastomosis created; thoracotomy is not required. Drawbacks of this approach include the inability to perform a full thoracic lymphadenectomy, and lack of visualization of the midthoracic dissection.

With respect to the success of THE, Orringer's largest series of 800 patients reported a five-year survival rate of 23 percent, a perioperative mortality rate of 4 percent and an anastomotic leak rate of 13 percent [9]. Other postoperative complications included atelectasis and pneumonia in 2 percent, and intrathoracic hemorrhage, recurrent laryngeal nerve (RLN) paralysis, chylothorax, and tracheal laceration in <1 percent each. Similar results have been noted in other large series [36,38-40].

Ivor-Lewis transthoracic esophagectomy — The Ivor Lewis esophagectomy, first described in 1946, combines a laparotomy with right thoracotomy, and produces an

intrathoracic anastomosis [31]. This technique permits direct visualization of the thoracic esophagus, and allows the surgeon to perform a full lymphadenectomy. Disadvantages include a limited proximal resection margin, and the intrathoracic location of the anastomosis, which is associated with a greater likelihood of bile reflux than a cervical anastomosis. In one report, 20 percent of cases required repeat surgery for resolution [41]. In contrast, severe bile reflux was reported in only 3 percent in one series of patients undergoing cervical anastomosis [9].

A modification of the Ivor-Lewis technique involves a left thoracoabdominal incision with gastric pull-up into the left chest [42]. This approach is most useful for tumors involving the gastroesophageal junction (such as with Barrett's esophagus-related high grade dysplasia or a frank invasive cancer). (See "Management of Barrett's esophagus"). Only one incision is required, but disadvantages include a high incidence of postoperative reflux, and limitation of the proximal esophageal margin by the aortic arch. (See "Surgery in the treatment of invasive gastric cancer", section on Surgical treatment for localized disease).

Many centers have reported results using the right-sided (Ivor-Lewis) intrathoracic anastomosis [40,43-49]. In experienced hands, this technique is safe, and retrospective as well as prospective comparisons [47,49-54], plus at least one meta-analysis [55] suggests similar long-term outcomes as with THE. In one of the largest series of 228 patients undergoing an Ivor-Lewis subtotal esophagectomy, the perioperative mortality rate was 4 percent, and major respiratory or cardiovascular/thromboembolic complications occurred in 17 and 7 percent respectively [48]. Nine patients (4 percent) developed a mediastinal leak, which was anastomotic in five, and due to either an ischemic gastric conduit or gastrotomy dehiscence in the remainder. Only one patient developed a chyle leak.

For tumors located in the mid-esophagus, the Ivor Lewis technique may not be the optimal approach. The proximal margin is compromised, and if a leak occurs at the intrathoracic anastomosis, it is associated with substantial morbidity and mortality (up to 64 percent in some series) [56-61]. In contrast, a cervical anastomotic leak can generally be resolved by simple drainage of the neck wound at the bedside [62].

Triincisional esophagectomy — For most esophageal cancer resections, we prefer to incorporate the advantages of both the transhiatal and transthoracic approaches into a transthoracic total esophagectomy with node dissection and cervical esophagogastric anastomosis [62-64]. This technique is a modification of that described by McKeown in 1976, and uses three incisions; other modifications have also been described by others [65-67]. An initial right posterolateral thoracotomy is performed, and then laparotomy carried out to obtain complete esophageal dissection and en bloc resection with all mediastinal and upper abdominal lymph nodes, and to mobilize the gastric conduit. A left neck incision and cervical anastomosis then completes the operative procedure.

The obvious advantage of this approach is the ability to perform a complete two field (mediastinal and upper abdominal) lymphadenectomy, and do the entire dissection under direct vision. A left neck exposure is preferred for the esophagogastric anastomosis, since this avoids the recurrent laryngeal nerve (RLN) at all times during the dissection. The left RLN recurs lower (around the aortic arch) than the right RLN, which recurs around the subclavian artery, and is therefore more likely to be injured from the right side. This is especially important since the rate of RLN injury is higher with cervical as compared to intrathoracic anastomoses [9,43,44,68]. In our series, the rate of RLN injury overall was 14 percent, and dropped from 17 percent in the first 167 patients, to 7 percent in the last 83, largely due to a change in technique [62].

The operation is expedited by using the two-stage process. By starting with the thoracic phase of the procedure, local invasion of contiguous structures can be assessed. This is especially important in patients who have received induction therapy which can make it difficult to determine involvement of adjacent structures by noninvasive studies. It is very uncommon to find unresectable or disseminated disease in the abdomen during the second stage of the operation with the routine use of preoperative spiral CT scans, EUS, and PET scans. (See "Diagnosis and staging of esophageal cancer").

We and others have achieved excellent results with surgery alone, and in conjunction with induction therapy [17,20,62]. In our series, in which 202 patients (81 percent) received neoadjuvant chemoradiotherapy, three and four-year survival rates were 44 and 38 percent, respectively, although the number of patients at risk at four years is limited [62]. This high rate of neoadjuvant therapy may account for the high complete resection rate (232 patients, 93 percent), and the low rate of local recurrence (5.6 percent) in our cohort. However, similar excellent results have been reported in other series in which neoadjuvant approaches were either not used, or used in the minority of treatment patients:

• In one series of 324 patients, none of whom received induction therapy, a curative resection was possible in 235 (73 percent) [17]. The five-year survival rate overall was 35 percent, and for those undergoing complete resection with fewer than five positive nodes, it was 43 percent. Local control was accomplished in 93 percent.

• Similar results were noted in 111 patients undergoing en bloc resection, 11 of whom received preoperative chemotherapy or chemoradiotherapy [20] The five-year survival rate overall was 40 percent, 75 percent for node-negative, and 26 percent for node-positive [20]. Local failure occurred in 8 percent.

• In a third series of 100 en bloc esophagectomies for adenocarcinoma, in which no patient received neoadjuvant therapy, the five-year survival rate was 52 percent, and one-third of patients with lymph node involvement survived five years [23]. Only one patient suffered a local recurrence.

The overall incidence of complications using the combined approach as we describe is similar to that of other surgical techniques. In our reported series of 250 patients treated with the combined approach, there were no intraoperative deaths, and the perioperative mortality rate was 3.6 percent (nine of 250) [62]. The cause of death was pneumonia and progressive respiratory failure in three, aspiration and respiratory arrest in one, pulmonary embolism in two, sepsis in the setting of conduit leak and empyema in one, ischemic bowel and multisystem organ failure in one, and cirrhosis in the setting of ischemic necrosis of the conduit in one.

Early postoperative complications occurred in 124 of 250 patients (50 percent); they were considered major in 83, and these are listed in table 1 (show table 1). An anastomotic or conduit leak (from either conduit necrosis or leak from the staple line) occurred in 14 and 5 patients (5.6 and 2 percent, respectively). All anastomotic leaks were successfully managed with simple cervical drainage, and healed without sequelae. In contrast, two patients who refused further surgical intervention for a conduit leak died from sepsis.

Chylothorax was successfully repaired surgically in 16 of the 22 patients in which it occurred. The high incidence of this complication, despite prophylactic suturing of the duct, could have been due to the fragility of mediastinal tissues after neoadjuvant treatment. At the time of reexploration, the leak was often detected from a plexus of lymphatic channels associated with the subcarinal nodal basin.

Long-term complications in our series include anastomotic strictures in 65 patients (26 percent), only eight of whom required more than two dilations, and gastric outlet obstruction (3 percent). This compares favorably with other series, in which up to one-half of long-term survivors experience at least some reflux, early satiety, fatigue, dysphagia, dumping syndrome, and heartburn following esophagectomy [69,70].

Extended lymphadenectomy — Esophagectomy with an extended or three-field lymphadenectomy (usually including mediastinal, abdominal and cervical nodes) is commonly practiced in Japan [16,71-73]. In skilled hands, it can be performed with relatively low mortality and comparative morbidity to other techniques, but the long-term benefit of extended lymphadenectomy compared to other approaches is controversial [74]. Proponents of the extended lymphadenectomy quote impressive long-term survival rates as evidence of its therapeutic benefit. As an example, in one American series of 80 patients undergoing this technique with en bloc esophagectomy, the overall five-year survival rate was 51 percent (88

percent for node-negative, and 33 percent for node-positive patients) [22]. However, since the extent of lymph node dissection can affect the assignment of the final stage of disease, this resulting stage migration phenomenon hampers stage by stage comparison between different forms of surgical resection [75]. Furthermore, although unsuspected metastases in the recurrent laryngeal or cervical nodes were detected in 36 percent of patients in the above noted series [22], others report a low incidence of cervical nodal recurrence following a two-field lymphadenectomy [76].

At least two randomized trials have compared the extended transthoracic approach to other surgical procedures:

• One small prospective randomized trial that directly compared extended to conventional lymphadenectomy in patients undergoing esophageal cancer resection was impossible to interpret since only 73 of a potential 264 eligible patients were randomized (raising the issue of selection bias), and following surgery, patients were randomly assigned to one of three groups for adjuvant therapy: none (n = 5), aggressive chemoradiotherapy (n = 32) or chemotherapy alone (n = 24) [77].

• A second prospective trial from the Netherlands included 220 of 263 potentially eligible patients with mid to lower esophageal adenocarcinoma, and randomly assigned them to THE or an extended transthoracic resection [78]. Patients who received neoadjuvant chemotherapy or radiation therapy were excluded from the trial. Perioperative morbidity was higher after transthoracic resection (mainly due to pulmonary complications), but in-hospital mortality was not significantly different (5 versus 2 percent). With a median follow-up of 4.7 years, there was a trend towards better disease-free (39 versus 27 percent) and overall survival (39 versus 29 percent) for the group undergoing transthoracic esophagectomy, but neither reached the level of statistical significance.

At present, three field lymphadenectomy is not considered a standard treatment for patients with esophageal cancer in the United States. However, if a lymph node dissection is not done, then lymph node sampling should be carried out to accurately stage the patient, and to gauge the response to induction treatment in patients enrolled in trials using neoadjuvant therapy.

Impact of neoadjuvant therapy on morbidity — Whether neoadjuvant therapy impacts on the complication rate following esophagectomy is unclear; the available data are conflicting. In retrospective nonrandomized series, the postoperative complication rate compared to historical controls undergoing surgery alone is higher in some series [79-81] but not in others [82-84]. However, in randomized trials that had a surgery only control arm, the addition of chemotherapy [11,85,86] or chemoradiotherapy [5,6] did not appear to significantly increase the morbidity or mortality associated with surgery. Neoadjuvant approaches to the treatment of esophageal cancer are discussed in detail elsewhere. (See "Radiation therapy; chemoradiotherapy; and neoadjuvant approaches for localized esophageal cancer").

The importance of hospital volume — Patients who undergo esophagectomy at hospitals that perform large numbers of procedures have lower perioperative mortality rates and better early clinical outcomes than those who undergo resection at lower volume institutions [87-92]. As an example, in one report that used Medicare claims data, when compared to the lowest volume hospitals (fewer than 2 procedures yearly), the adjusted odds ratio for mortality in patients treated at the highest volume hospitals (more than 19 procedures yearly) was 0.36 (95% CI, 0.26-0.50) for esophagectomy [87]. The impact of hospital volume on long-term clinical outcome is less clear; at least one series suggests it is not dissimilar in high versus low volume institutions [93].

Postoperative (adjuvant) therapy — Pathologically node-positive (stage IIB and III, show table 2) esophageal cancer is associated with a high rate of disease recurrence and death. The optimal management of patients who have persistently node-positive disease following neoadjuvant therapy is unclear. However, for patients undergoing surgery alone, the addition of postoperative chemotherapy with or without radiation therapy may improve outcomes, although there are no available trials that randomly assign patients to treatment versus no treatment.

Postoperative radiation alone does not appear to improve the expected survival in uncontrolled series [94].

Chemoradiotherapy — A benefit has been suggested for postoperative chemoradiotherapy, although there are no definitive trials that randomly assign patients to surgery alone versus adjuvant chemoradiotherapy:

• In one retrospective report, 38 patients with node-positive disease after esophagectomy alone received postoperative chemoradiotherapy (concurrent or sequential radiation plus cisplatin and 5 fluorouracil [5-FU] with or without epirubicin), and their outcomes were compared to 28 similar patients who did not receive further therapy [95]. Local recurrence rates were lower in the group receiving postoperative therapy (35 versus 13 percent), and the median overall survival was significantly longer (47.5 versus 14.1 months).

• Similar results were noted in a second series that compared outcomes among 31 patients with locally advanced esophageal cancer (90 percent T3, 81 percent node-positive, 13 percent M1a, show table 2) who received postoperative chemoradiotherapy with the outcomes of 52 concurrently treated patients who were matched for demographic, tumor, and surgical factors [96]. The adjuvant regimen consisted of radiation (50.4 to 59.4 Gy) plus concurrent cisplatin and 5-FU. Compared to the propensity-matched controls, the group treated with chemotherapy had a longer median (28 versus 15 months) and five-year survival rates (44 versus 0 percent).

• A randomized trial compared postoperative chemotherapy (five weeks of cisplatin plus 5-FU) with and without radiation (50 Gy over five weeks) in 45 patients undergoing potentially curative resection for squamous cell cancer of the thoracic esophagus who did not receive preoperative therapy [97]. There was no significant benefit for the addition of radiation therapy in terms of three-year (58 versus 63 percent) or five-year survival (50 versus 38 percent), and locoregional control rates were also not better in this group.

Chemotherapy alone — A benefit for adjuvant chemotherapy alone was suggested in an uncontrolled trial conducted by the Eastern Cooperative Oncology Group that included patients with distal esophageal (n = 9), gastroesophageal junction (n = 34) or gastric cardia (n = 12) [98]. Eligible patients had either T2N1-2 or T3/4 disease that was completely resected with negative margins; 49 (89 percent) were node-positive. Treatment consisted of four three-week cycles of paclitaxel (175 mg/m2) followed by cisplatin (75 mg/m2). With a median follow-up of four years, the two and three-year survival rates were 60 and 44 percent, respectively.

Summary and recommendation — Total thoracic esophagectomy with cervical esophagogastrostomy, radical two-field lymph node dissection, and jejunostomy feeding tube placement appears to be a safe surgical option, particularly in the setting of induction therapy, and offers reasonable long-term survival. Patients undergoing surgery alone have a median survival that ranges from 13 to 19 months, two-year survival rates from 35 to 42 percent, and five-year survival rates of 15 to 24 percent. In contemporary multiinstitutional trials, resectability rates are consistently 54 to 69 percent, operative mortality rates 4 to 10 percent, and perioperative morbidity rates of 26 to 41 percent (predominantly cardiopulmonary complications, infections, and anastomotic leaks) [99].

Although the contribution of neoadjuvant therapy to long-term survival is unclear, patients who have a complete pathologic response to induction therapy appear to have the best long-term outcome. In addition, local control rates are clearly better when neoadjuvant therapy is administered prior to surgery. (See "Radiation therapy; chemoradiotherapy; and neoadjuvant approaches for localized esophageal cancer").

The three-incisional technique described above allows the surgeon to perform a safe resection that includes a complete lymphadenectomy and a cervical esophagogastric anastomosis. The advantages of a neck anastomosis include location outside of prior radiation ports, a lower incidence of reflux, a more extensive proximal resection margin, and easier management of an anastomotic leak, should it occur.

For patients with completely resected node-positive disease who have not received neoadjuvant therapy, postoperative adjuvant chemotherapy should be considered, although whether chemotherapy alone or chemoradiotherapy should be used is unclear. Further confirmatory trials, particularly randomized trials, are necessary before specific recommendations can be made.

CERVICAL ESOPHAGEAL CANCER — The cervical esophagus is 6 to 8 cm long, and extends from the cricopharyngeus to the thoracic inlet, where it is contiguous with the thoracic esophagus. SCC of the cervical esophagus is relatively uncommon, accounting for less than 5 percent of all esophageal cancers [100]. Locally advanced disease is often present at diagnosis. In one report, tracheal invasion and vocal cord paralysis were evident in 35 and 24 percent of patients, respectively [101].

Carcinoma of the cervical esophagus presents a unique management situation. Treatment choices include surgery, radiation, or combined modality treatment. If surgery is performed, it usually requires removal of portions of the pharynx, the larynx, the thyroid gland, and portions of the proximal esophagus; in addition, radical neck dissections are usually carried out [102-111]. As such, the management is more closely related to SCC of the head and neck than for malignancies involving the more distal portions of the esophagus. In fact, many series report combined outcomes for patients with cancers involving the hypopharynx and cervical esophagus.

Radiation combined with chemotherapy is generally preferred over surgery since the opportunity for long-term survival appears to be similar, and major morbidity is avoided in most [112-115]. In one series of 32 patients treated with chemoradiotherapy and salvage surgery, the ten-year survival rate was 27 percent, and 15 of 32 successfully preserved their larynx [114].

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GRAPHICS

Major Complications With En Bloc Esophagectomy[1], n = 250

Complication	Frequency, n
Recurrent laryngeal nerve injury	14 percent (35)
Chylothorax	9 percent (22)
Leak	8 percent (19)
Pneumonia	5 percent (13)
Postsurgical bleeding	2 percent (5)
Tracheoesophageal fistula	1 percent (2)
Adult respiratory distress syndrome	1 percent (2)
Empyema	1 percent (2)
Pulmonary emboli	1 percent (2)
Sepsis	0.4 percent (1)
Mediastinitis	0.4 percent (1)

[1] Swanson, SJ, et al. Ann Thor Surg 2001; 72:1918.

American Joint Commission on Cancer Staging for Esophageal Cancer†

Definition of TNM

Primary tumor (T)

TX Primary tumor cannot be assessed
T0 No evidence of primary tumor
Tis Carcinoma in situ
T1 Tumor invades lamina propria or submucosa
- T1a Tumor invades mucosa or lamina propria
- T1b Tumor invades submucosa

T2 Tumor invades muscularis propria
T3 Tumor invades adventitia
T4 Tumor invades adjacent structures

Regional lymph nodes (N)

NX Regional lymph nodes cannot be assessed
N0 No regional lymph node metastasis
N1 Regional lymph node metastasis
- N1a 1 to 3 nodes involved
- N1b 4 to 7 nodes involved
- N1c >7 nodes involved

Distant metastasis

MX Distant metastasis cannot be assessed
M0 No distant metastasis
M1 Distant metastasis

Tumors of the lower thoracic esophagus:
- M1a Metastasis in celiac lymph nodes
- M1b Other distant metastasis

Tumors of the midthoracic esophagus:
- M1a Not applicable
- M1b Nonregional lymph nodes and/or other distant metastasis

Tumors of the upper thoracic esophagus:
- M1a Metastasis in cervical nodes
- M1b Other distant metastasis

Stage grouping

Stage 0	Tis	N0	M0
Stage I	T1	N0	M0
Stage IIA	T2	N0	M0
	T3	N0	M0
Stage IIB	T1	N1	M0
	T2	N1	M0
Stage III	T3	N1	M0
	T4	Any N	M0
Stage IV	Any T	Any N	M1
Stage IVA	Any T	Any N	M1a
Stage IVB	Any T	Any N	M1b

† Used with the permission of the American Joint Committee on Cancer (AJCC), Chicago, Illinois. The original source for this material is the AJCC Cancer Staging Manual, Sixth Edition (2002) published by Springer-Verlag New York, Inc.

APENDIX P.1

Mater

Exceptional People. Exceptional Care.

MATER PUBLIC INTENSIVE CARE UNIT

20th April 2005

Mr Dan Bergin
Zonal Manager, Central Zone
Queensland Health
GPO Box 48
BRISBANE Qld 4001

Dear Mr Bergin

I am writing to you at the request of Dr Jenny King, Executive Director, Mater Adult Hospital following discussions that Dr King and Dr John O'Donnell had with Ms Karen Roach. Ms Roach requested that this letter be forwarded to you.

We currently have a patient in the Mater Adult Hospital Intensive Care Unit by the name of P366 . P366 is a 65 year old female who was transferred to Mater Adult Hospital on 25th March from Harvey Bay Hospital where she had a scheduled Whipple's procedure on 21st March 2005. Unfortunately this required re-exploration on 22nd March 2005 and subsequently P366 developed respiratory and renal failure requiring transfer to Brisbane.

I have enclosed the referral letter from the Harvey Bay Anaesthetist, a fax of the operation notes and a print out of this lady's pathology. Also please find a copy of an "up to date" summary on surgery in the treatment of pancreatic cancer. I would draw your attention to the highlighted passage on page 2 of this summary in relation to peri-operative morbidity and mortality from a Whipple's procedure.

Thank you for considering the issues raised by this notification.

Yours sincerely

REFERRAL LETTER
+OPERATION NOTES
AT JOHN TONGE CENTRE
AFTER DEATH ON
21/5/05 REFERRED
TO CORONER.
AC.
26/5/05.

Dr Peter Cook
Complex Wide Director of Adult Critical Care Services
Mater Adult Hospital

Cc Dr Jenny King
Executive Director
Mater Adult Hospital

Dr John O'Donnell
Chief Executive Officer
Mater Adult Hospital

Surgery in the treatment of pancreatic cancer

Carlos Fernandez-del Castillo, MD
Ramon E Jimenez, MD
Michael L Steer, MD

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INTRODUCTION — More than 31,000 people develop pancreatic adenocarcinoma each year in the United States, and almost all are expected to die from the disease [1]. Surgical resection is the only potentially curative treatment for pancreatic cancer. Unfortunately, because of the late presentation of the disease, only 15 to 20 percent of patients are candidates for pancreatectomy. The prognosis of pancreatic cancer is poor even in those with potentially resectable disease, although there is some evidence that outcomes are improving over time.

The surgical management of pancreatic exocrine cancer will be reviewed here. The clinical manifestations, diagnosis and pathologic features, and adjuvant and neoadjuvant approaches are discussed separately. (See "Clinical manifestations, diagnosis, and surgical staging of exocrine pancreatic cancer" and see "Adjuvant therapy for pancreatic and ampullary cancer"). This topic is also discussed in an official guideline issued by the American Gastroenterological Association. (See "AGA guideline: Epidemiology, diagnosis, and treatment of pancreatic ductal adenocarcinoma").

PREOPERATIVE STAGING — Several diagnostic studies are available to determine the tumor stage. Disease that is limited to the pancreas and peripancreatic nodes (stage I-IIB disease, show table 1) is most likely to be cured by radical resection. Absolute contraindications for resection include the presence of metastases in the liver, peritoneum, omentum, or any extraabdominal site. More relative contraindications are involvement of the bowel mesentery, porto-mesenteric vasculature, and celiac axis and its tributaries. This topic is discussed in detail elsewhere. (See "Clinical manifestations, diagnosis, and surgical staging of exocrine pancreatic cancer").

Although tumors that involve the major peripancreatic vessels such as the superior mesenteric vein, portal vein, or superior mesenteric artery may be technically resectable, their curability is questionable. At least one series suggests that patients with adenocarcinoma of the pancreatic head who require venous resection during pancreaticoduodenectomy do not suffer a worse outcome than those who undergo standard pancreaticoduodenectomy [2]; however, the morbidity and mortality can be substantial, and long-term outcomes may not be better than without resection.

TUMORS IN THE HEAD OF THE PANCREAS

Preoperative preparation: The role of biliary drainage — Patients with pancreatic cancer who are jaundiced at presentation are at risk for associated coagulopathy, malabsorption, and malnutrition. The development of transhepatic and endoscopic stents has spawned efforts to drain the biliary tree preoperatively to improve surgery-related morbidity and mortality.

The use of preoperative biliary stenting is controversial. Although experimental studies in jaundiced animals suggest that preoperative biliary drainage improves surgical outcomes, clinical studies have failed to show a benefit in patients with obstructive jaundice who then undergo resection. In fact, some report deleterious effects, including an increased risk of cholangitis and longer postoperative hospital stay [3-8].

At least five prospective randomized controlled trials have been conducted [6,8-11], with four concluding that there is no benefit for preoperative biliary drainage [6,8,10,11], and three showing potential harm [6,8,11]. Two meta-analyses have come to different conclusions, with one finding neither an adverse nor a favorable impact of preoperative stenting on the incidence of postoperative morbidity or mortality [12], and the other, an overall adverse impact of stenting on the postoperative complication rate [13].

Uncertainty as to the benefit of preoperative drainage has led to differing approaches. Some surgeons routinely decompress with an endoscopically placed plastic stent prior to surgery while others reserve biliary decompression for selected patients in whom surgery will be delayed for longer than two weeks, or in the presence of cholangitis. If patients undergo preoperative stenting, it is important to keep the proximal end of the stent at or below the level of the cystic duct takeoff. (See "Pancreatic cancer: Palliation of symptoms").

Standard pancreaticoduodenectomy — The standard operation for pancreatic cancer within the head or uncinate process of the pancreas is pancreaticoduodenectomy, also called the "Whipple procedure". The standard Whipple procedure involves removal of the pancreatic head, duodenum, first 15 cm of the jejunum, common bile duct, and gallbladder (show figure). A partial gastrectomy is also performed. Pancreatic and biliary anastomoses are placed 45 to 60 cm proximal to the gastrojejunostomy, thereby assuring that the gastrojejunostomy is bathed in alkaline secretions; this reduces the risk of stomal ulceration while preventing reflux of gastric juice and food into the anastomoses [14].

Perioperative morbidity and mortality — In the past, pancreaticoduodenectomy was associated with high morbidity and mortality rates. However, modern series show that in experienced hands, the standard Whipple procedure is associated with a five-year survival of 20 to 30 percent in completely resected patients with a perioperative mortality rate of less than 4 percent [15-20]. This relatively low perioperative mortality rate represents a decline from over 15 percent in the 1970s, making the Whipple procedure a much more attractive option now than it has been at any time in its long history. One of the most important reasons for this is the greater experience of a limited number of surgeons who perform the procedure regularly in high-volume institutions [21-24]. This was illustrated in data derived from the Medicare database, in which a nearly fourfold increase in mortality was noted when comparing pancreaticoduodenectomy performed in hospitals with less than one case per year to those hospitals performing more than 16 cases per year [21]. Other reports suggest that long-term outcomes are similarly improved [22,24]. Even within high volume hospitals, operative mortality rates vary by a factor of nearly four to one according to the experience of individual surgeons [25].

Clinically significant postoperative pancreatic leaks occur in approximately 5 to 10 percent of patients, although in some series the incidence was as high as 18 percent [26]. The development of a pancreatic anastomotic leak may be signaled by increased amylase in drainage fluid, or radiographic documentation of a peripancreatic amylase-containing fluid collection [26]. In one report, risk factors for pancreaticojejunal anastomotic leak included the duration of preoperative jaundice, decreased renal function, and intraoperative blood loss [27]. Although octreotide can decrease the incidence of this complication in patients who undergo pancreatectomy for nonmalignant disease, it does not appear to protect against pancreatic leaks when surgery is performed for pancreatic or other periampullary cancers [28,29].

Results — The prognosis for pancreatic cancer is poor even with surgically negative margins in appropriately selected patients. Large series show five-year survival rates of only 10 to 25 percent, and median survival between 10 and 20 months [17,30-35]. The most important prognostic factor in completely resected patients is nodal status. Five-year survival after

pancreaticoduodenectomy is only about 10 percent for node-positive disease, while it is 25 to 30 percent for node-negative disease [18,30,33-35]. Other predictors of a favorable outcome include a tumor size less than 3 cm, negative margins, well-differentiated tumors, and intraoperative blood loss of less than 750 mL [17,30-32,36].

More recent data suggest that outcomes may be improving over time, possibly related to an increase in the proportion of patients undergoing surgery at teaching hospitals, diminished surgical mortality, and/or greater use of adjuvant chemoradiotherapy. As an example, in a report of 396 Medicare patients residing in one of 11 SEER (Surveillance, Epidemiology, and End Results reporting) registries who underwent resection of pancreatic cancer with curative intent between 1991 and 1996, the three-year survival rate was 34 percent [37]. In multivariate analysis, one of the strongest predictors for survival was the use of adjuvant chemoradiotherapy; both median survival and three year survival rates were significantly higher among those who received it compared to those who did not (29 versus 12.5 months, and 45 versus 30 percent, respectively). (See "Adjuvant therapy for pancreatic and ampullary cancer", section on Adjuvant chemoradiotherapy).

Modifications of the standard pancreaticoduodenectomy — Modifications of the standard Whipple procedure have been developed in an attempt to improve outcome or minimize the morbidity associated with the operation. These include:

- Ultraradical surgery, including resection of the portal vein, total or regional pancreatectomy, and retroperitoneal lymphadenectomy.

- Pylorus-preserving pancreaticoduodenectomy, which decreases the incidence of postoperative dumping, marginal ulceration, and bile reflux gastritis that can occur in many patients undergoing partial gastrectomy.

Total pancreatectomy — Total pancreatectomy was advocated as a better operation for pancreatic cancer [38], both to remove more tissue potentially involved with the malignancy and to avoid the pancreatojejunal anastomosis, the source of considerable morbidity and mortality. However, results of that operation are not better than more limited resection, and this operation results in obligate exocrine insufficiency and diabetes, which is brittle and difficult to manage [39-41]. Some reports suggest a worse outcome. As an example, in one series of 35 patients undergoing total pancreatectomy, 54 percent developed postoperative complications, and the median overall survival was significantly worse than a contemporaneously treated cohort with adenocarcinoma undergoing pancreaticoduodenectomy (7.9 versus 17.2 months) [42]. Thus, total pancreatectomy is typically reserved for the uncommon case in which the tumor extends into the body or tail of the pancreas.

Regional pancreatectomy — Regional pancreatectomy involves resection and reconstruction of the superior mesenteric vein-portal vein confluence and extensive en bloc regional lymph node dissection. However, as with total pancreatectomy, the morbidity is higher than with standard pancreaticoduodenectomy, and there is no apparent improvement in either local control or survival [43-45].

Ultraradical surgery — Ultraradical surgery with portal vein resection, total pancreatectomy, and retroperitoneal lymphadenectomy has been performed primarily in Japan. An initial report suggested a superior outcome compared with the standard Whipple resection [46]. Proponents argue that the more extensive resection allows removal of multifocal disease and additional potentially involved peripancreatic nodes. It also eliminates the need for pancreaticoenteric anastomosis, thereby removing the risk of a postoperative leak or pancreatic fistula. However, several reports failed to demonstrate improved survival and, as with total pancreatectomy, patients who underwent this procedure developed diabetes, which was often difficult to control [14,47].

Portal vein resection may have a role in some patients with pancreatic cancer. Patients with tumors involving the portal vein appear to be no more likely to have positive lymph nodes or poor prognostic histologic parameters (eg, aneuploidy) than those without portal vein

involvement, suggesting that vein invasion is a function of tumor location rather than an indicator of aggressive tumor biology [2,48]. Thus, it may be reasonable to resect part of the portal vein in patients with tumors arising in close proximity to the vein who do not have other contraindications to resection [14]. In contrast, large tumors involving several centimeters of the vein or encasing the vein are unlikely to be cured by resection.

Some groups in Japan routinely complement the Whipple operation with an extensive lymph node dissection (extended lymphadenectomy), since periampullary malignancies frequently metastasize to lymph nodes that are beyond the confines of the standard pancreaticoduodenectomy [49,50]. A single prospective trial comparing conventional pancreaticoduodenectomy versus a more extended lymphadenectomy was conducted in 81 patients with a potentially curable adenocarcinoma of the pancreatic head [51]. While overall survival was identical for both treatment groups, subgroup analysis demonstrated better survival in patients with positive nodes undergoing extensive lymphadenectomy. Survival curves were superimposable upon those of node-negative patients. However, a subsequent larger randomized controlled trial of standard versus radical (extended) pancreaticoduodenectomy involving 299 patients concluded that five-year survival rates, perioperative morbidity and mortality were not different than those obtained with a standard Whipple procedure [47]. Thus, there is no evidence to support the use of extended lymphadenectomy [52].

Pylorus-preserving pancreaticoduodenectomy — Pylorus-preserving pancreaticoduodenectomy, a relatively less aggressive operation that preserves the pylorus, is being increasingly used in the United States [53-55]. The procedure preserves the gastric antrum, pylorus, and the proximal 3 to 6 cm of the duodenum, which is anastomosed to the jejunum to restore gastrointestinal continuity (show figure 2). Two randomized trials have directly compared a pylorus preserving with a standard pancreaticoduodenectomy [56,57]:

- One trial included 114 patients with pancreatic or periampullary tumors who were randomly assigned to either a standard or a pylorus-preserving pancreaticoduodenectomy [56]. In a preliminary report that included 77 of these patients, the pylorus-preserving group had a significantly shorter operative time, reduced blood loss, and fewer blood transfusions, and the incidence of delayed gastric emptying was identical in both groups. There were no differences in tumor recurrence or in survival after short follow-up (median 1.1 years).

- In the second report that included 31 patients with periampullary cancers, there were no significant differences between pylorus-preserving and standard Whipple resection in terms of operative mortality and morbidity, operating time, blood loss, or blood transfusion [57]. The pylorus-preserving procedure was associated with more frequent delayed gastric emptying (6 of 16 versus 1 of 15). There were no differences in the type of recurrence or long-term survival in the two groups, although the duration of follow-up was not stated.

The available data suggest that long-term survival is not adversely affected by the use of pylorus-preserving techniques [35,52,57,58], although clearly a pylorus preserving procedure is not suitable for all cases [59,60]. The overall impact of a pylorus-preserving procedure on gastrointestinal function is unclear. There are no large studies comparing quality of life and gastrointestinal function in patients undergoing pylorus-preserving surgery. Delayed gastric emptying may be more common following a pylorus-preserving operation, although this is usually self-limiting and rarely lasts beyond six weeks [61]. In contrast, others have noted a marked reduction in reflux associated with the pylorus-preserving procedure [62], which may also be associated with more normal gastrointestinal function and preservation of weight [63]. However, in one retrospective review of a small number of patients, the authors were not able to distinguish patients who had a pylorus-preserving versus a standard Whipple procedure on the basis of postoperative gastrointestinal function or quality of life [64].

TUMORS IN THE BODY OR TAIL OF THE PANCREAS — Because adenocarcinomas involving the body or tail of the pancreas usually do not cause obstruction of the intrapancreatic portion of the common bile duct, early diagnosis is rare; the vast majority have locally advanced or metastatic disease at the time of presentation. In the rare patients who appear to have

potentially resectable disease by computed tomography scan, laparoscopic exploration should precede attempted resection, since a significant proportion will have occult peritoneal metastases [65,66].

Surgical resection of cancers located in the body or tail of the pancreas consists of a distal subtotal pancreatectomy, usually combined with splenectomy. The scant data available regarding the outcome of surgical resection suggest a short survival, high perioperative mortality rate [67], and poor prognosis compared to those with cancers involving the head of the pancreas [68,69]. In one study, for example, only 13 of 105 patients (12 percent) with cancer of the body or tail of the pancreas had resectable tumors, and median survival was only 13 months after surgery, with only five patients remaining alive at two years [68]. Other reports suggest similar postresection survival as tumors involving the pancreatic head [70].

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GRAPHICS

Staging of Pancreatic Exocrine Cancer†

Definition of TNM

Primary tumor (T)

TX	Primary tumor cannot be assessed
T0	No evidence of primary tumor
Tis	In situ carcinoma
T1	Tumor limited to the pancreas, 2 cm or less in greatest dimension
T2	Tumor limited to the pancreas, more than 2 cm in greatest dimension
T3	Tumor extends beyond the pancreas but without involvement of the celiac axis or the superior mesenteric artery
T4	Tumor involves the celiac axis or the superior mesenteric artery (unresectable primary tumor)

Regional lymph nodes (N)

NX	Regional lymph nodes cannot be assessed
N0	No regional lymph node metastasis
N1	Regional lymph node metastasis

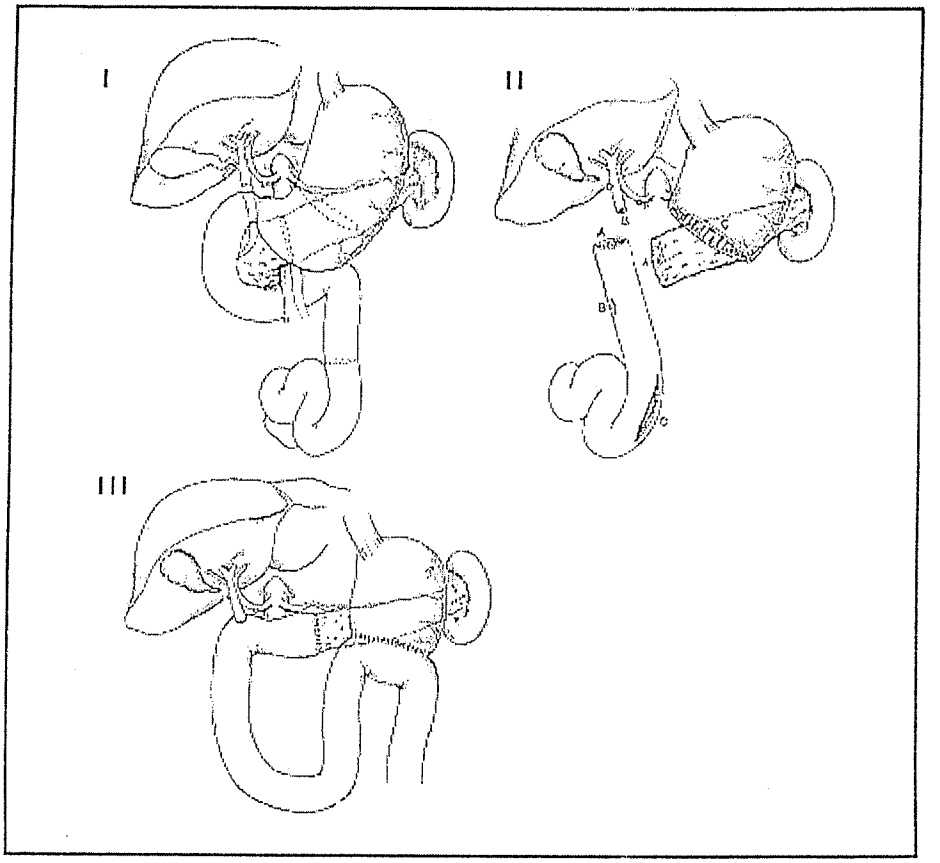
Distant metastasis (M)

MX	Distant metastasis cannot be assessed
M0	No distant metastasis
M1	Distant metastasis

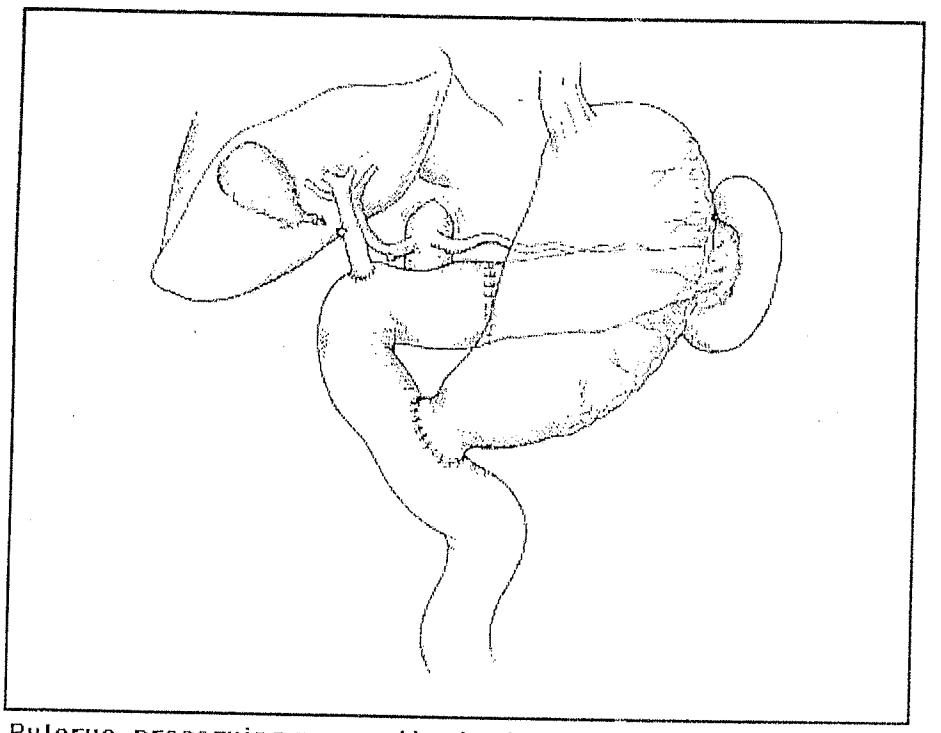
Stage grouping

Stage 0	Tis N0 M0
Stage IA	T1 N0 M0
Stage IB	T2 N0 M0
Stage IIA	T3 N0 M0
Stage IIB	T1–3 N1 M0
Stage III	T4 Any N M0
Stage IV	Any T Any N M1

† Used with the permission of the American Joint Committee on Cancer (AJCC), Chicago, Illinois. The original source for this material is the AJCC Cancer Staging Manual, Sixth Edition (2002) published by Springer-Verlag New York, Inc.



Whipple pancreaticoduodenectomy for pancreatic cancer Three drawings representing surgical anatomy prior to resection of a pancreatic cancer (I), following resection (II), and after complete reanastomosis (III). Dashed lines in drawing I indicate the resection margins for a typical tumor in the head of the pancreas. In drawing II, the specimen has been resected, and A, B, and C represent the sites for subsequent anastomoses between the bowel and the pancreas, bile duct, and stomach, respectively. Reproduced with permission from: Todd, KE, Gloor, B, Reber, HA. Pancreatic adenocarcinoma. In: Textbook of Gastroenterology, vol 2, 3rd ed, Yamada, T, Alpers, DH, Laine, L, et al (Eds), Lippincott Williams and Wilkins, New York 1999. Copyright © 1999 Lippincott Williams and Wilkins.



Pylorus-preserving pancreaticoduodenectomy The final surgical anatomy remaining after the pylorus-preserving modification of the Whipple procedure. The entire stomach, the pylorus, and several centimeters of duodenum are retained. Reproduced with permission from: Todd, KE, Gloor, B, Reber, HA. Pancreatic adenocarcinoma. In: Textbook of Gastroenterology, vol 2, 3rd ed, Yamada, T, Alpers, DH, Laine, L, et al (Eds), Lippincott Williams and Wilkins, New York 1999.

APPENDIX E2

Queensland Government

Queensland Health

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File Ref: ZM:Dr Cook

Dr P Cook
Complex Wide Director
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Dear Dr Cook

I would like to thank you for your letter of 20 April 2005 regarding the patient from Hervey Bay Hospital admitted to the Mater Adult Hospital Intensive Care Unit.

Following an email from Dr Jenny King about this matter, I communicated with Fraser Coast District Health Service staff and as a result a decision has been taken to cease all further Whipple's procedures at Hervey Bay Hospital.

The relevant literature which you attached to your letter was particularly helpful and I appreciate you writing to me to bring this to my attention.

Patient safety remains paramount in determining at which Queensland Health facility particular procedures are carried out.

Yours sincerely

Mr Dan Bergin
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22/4/2005

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Cook Peter

From: Cook Peter
Sent: Wednesday, 20 April 2005 6:03 PM
To: 'Karen_Roach@health.qld.gov.au'
Subject: Private and Confidential

Karen,
I apologise for writing to you directly but I'm sure you'll appreciate the sensitive nature of this note.
Today I posted a letter to Dan Bergin concerning the Whipple's procedure performed at Hervey Bay Hospital as you requested.
In recent discussions with one of the referring doctors in Hervey Bay [not a surgeon] by phone, he made mention of a recent patient transferred from Hervey Bay to Princess Alexandra Hospital Intensive Care who subsequently died following a total gastrectomy performed in Hervey Bay. I am able to confirm that this did in fact happen. I was concerned that this could be evidence of a pattern of practice. The details of the gastrectomy patient are none of my business however I did contact Chris Joyce to ensure that this case has been notified to the Southern Zone Office. Chris was in the middle of a ward round but had no recollection of the case so I assume this means that this notification may not have occurred.
The issues with role delineation of the hospital and frequency of performance of the procedure are broadly similar for Whipple's procedure as for total gastrectomy. I will forward an "Up-to-Date" summary which makes specific mention on page six of volume of cases and mortality. To quote a sentence:
The adjusted odds ratio for death at the highest { > 21 procedures per year } versus the lowest volume { < 5 procedures per year } institutions was 0.72 [95% confidence interval 0.63 - 0.83] "
Thank you for managing this as appropriate.
Yours Sincerely,
Peter

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Surgery in the treatment of invasive gastric cancer

Paul F Mansfield, MD, FACS

UpToDate performs a continuous review of over 330 journals and other resources. Updates are added as important new information is published. The literature review for version 13.1 is current through December 2004; this topic was last changed on August 5, 2004. The next version of UpToDate (13.2) will be released in June 2005.

INTRODUCTION — The incidence of gastric cancer in the United States has declined dramatically since the 1930s (show figure 1 and show figure 2) [1]. Approximately 22,700 patients will be diagnosed in 2004, and 11,780 (52 percent) are expected to die from this disease [1]. Prognosis has improved only marginally over the last two decades despite the declining incidence and significant advances in surgical therapy and postoperative care. The overall five-year survival rate for all stages combined was 23 percent between 1992 and 1999, compared to 15 percent between 1974 and 1976 [1]. The high mortality rate reflects the prevalence of advanced disease at presentation, and relatively aggressive biology. (See "Clinical features and diagnosis of gastric cancer"). Early lesions are usually asymptomatic, and infrequently detected outside the realm of a screening program.

An additional contributing factor to the persistently high mortality rate is a the change in the distribution of cancers from the body and antrum to the proximal stomach during the past 20 years. For unclear reasons, cancers involving the proximal stomach and gastroesophageal (GE) junction have increased steadily at a rate exceeding that of any other cancer, except melanoma and lung cancer [2-5]. Proximal lesions are biologically more aggressive, and have a worse prognosis, stage for stage, than distal gastric cancers [6] suggesting that their pathogenesis differs from cancers arising in other parts of the stomach [7].

This topic review will focus on issues related to surgery for gastric cancer. Surgery may be required as a component of the staging evaluation, for potentially curative treatment of localized disease, or for palliation in cases of advanced disease. Adjuvant and neoadjuvant therapy, and the management of advanced disease are discussed in detail elsewhere. (See "Adjuvant and neoadjuvant treatment of gastric cancer" and see "Management of advanced gastric cancer").

EARLY DIAGNOSIS OF GASTRIC CANCER — Resection offers the best chance for long term survival for patients with localized gastric cancer, particularly in combination with adjuvant chemoradiotherapy [8] (see "Adjuvant and neoadjuvant therapy" below). A major problem is the identification of patients at a time when they are potentially curable. In the United States, two-thirds of patients present with stage III or IV disease, while only 10 percent have stage I disease (show table 1) [6]. Mass screening programs have been effective at detecting early gastric cancer in high incidence areas such as Japan where over one-half of patients have early tumors (show figure 1) [9]. (See "Early gastric cancer"). The relatively low incidence of gastric cancer in many other regions including the United States makes this strategy prohibitively costly and unwarranted.

Nevertheless, some individuals at high risk for gastric cancer may be appropriate candidates for screening. (See "Screening for gastric cancer"). Specific risk factors for cancer of the stomach or gastroesophageal junction include a genetic predisposition (eg, hereditary nonpolyposis colorectal cancer, familial polyposis coli) dietary factors, acid hyposecretory conditions, infection

with Helicobacter pylori, and Barrett's esophagus. (See "Gastric cancer: Pathology, pathogenesis, and risk factors"). Early evaluation of symptomatic patients may increase the likelihood of finding an early tumor. In one report, early evaluation of symptomatic patients increased the proportion of patients with stage I disease from 4 to 26 percent [10].

STAGING EVALUATION — Optimal therapy depends upon accurate staging of the extent of disease. The preoperative evaluation permits the assessment of a clinical stage, while pathologic staging depends upon the findings at subsequent surgical exploration and examination of the pathologic specimen. The TNM staging system of the American Joint Committee on Cancer is most frequently used (show table 1) [11]. Complete clinical, or preoperative staging of patients with gastric cancer includes:

- Physical examination, including evaluation of appropriate nodal areas (especially left supraclavicular nodes) as well as the abdomen and rectal examination

- Computed tomography (CT) scans of abdomen and pelvis, and, for proximal lesions, CT scan of the chest. Although CT is not very accurate for assessing the depth of tumor invasion of the stomach wall or regional nodal involvement, but may detect distant nodal or visceral metastases, ascites, or carcinomatosis. However, preoperative CT scans often underestimate the extent of disease, principally because of radiographically undetectable metastases involving the liver and peritoneum [12].

- Endoscopic ultrasound (EUS) may provide more accurate staging evaluation of the tumor (T) and nodal (N) stage than CT, and also allows for preoperative biopsies. In addition, it may rarely identify a lesion that can be removed by endoscopic mucosal resection. Its principle role is in the evaluation of patient being considered for neoadjuvant therapy. (See "Early gastric cancer" and see "Clinical features and diagnosis of gastric cancer").

The role of PET scanning in the staging of gastric cancer is under evaluation [13].

Staging laparoscopy — Staging laparoscopy, while more invasive than CT or EUS, has the advantage of directly visualizing the liver surface, peritoneum, and local lymph nodes, and permitting biopsy of suspicious lymph nodes. Radiographically occult metastatic disease can be identified, avoiding unnecessary exploratory laparotomy [14-16]. At laparoscopy, peritoneal metastases are documented in 20 to 30 percent of Western patients with gastric cancer with a negative CT, who would have been otherwise considered potentially resectable [14].

Tumor (T) stage — The T stage is dependent upon the depth of tumor invasion through the stomach wall (show table 1). Even T4 lesions that invade adjacent organs are potentially resectable for cure by en bloc resection.

Nodal status — The presence and number of involved lymph nodes have prognostic significance. However, studies conducted by the American College of Surgeons have demonstrated that up to one-third of patients failed to have the status of any lymph nodes reported in the pathologic specimen [17], likely reflecting a combination of a suboptimal operation, and a lack of thoroughness on the part of the pathologist. Other data support the inadequacy of lymphadenectomy in contemporary American series of gastric cancer resection, even among patients treated predominantly at academic institutions (see "Extent of lymph node dissection" below).

Although in the past, location has been the primary means of nodal staging, the most recent AJCC staging system reflects the importance of the number of lymph nodes retrieved in a specimen (show table 1) [11]. Nodal status is divided into four groups:

- N0 - No positive nodes

- N1 - 1 to 6 lymph nodes involved with tumor

- N2 - 7 to 15 lymph nodes involved with tumor
- N3 - more than 15 lymph nodes involved with tumor

In one series that included 1038 patients undergoing potentially curative resection for gastric cancer, the location of positive nodes did not significantly affect median survival, while the number of positive lymph nodes had a profound influence on survival provided that at least 15 lymph nodes were available for analysis [18]. Staging is not reliable if fewer than ten nodes are examined [19]. N3 disease constitutes stage IV disease in the current staging system, as does invasion of adjacent structures (T4 disease) in the presence of any nodal metastases.

M stage — The most common sites of distant metastases are distant nodes, particularly supraclavicular (Virchow's) nodes, liver, and peritoneum. Metastases occur less commonly in bone, lung, brain, and soft tissue. Preoperative radionuclide bone scan or brain imaging are usually not performed in patients who lack symptoms suggestive of involvement of these sites.

SURGICAL TREATMENT FOR LOCALIZED DISEASE — Complete surgical eradication of a gastric tumor with resection of adjacent lymph nodes, represents the best chance for long-term survival. Since resection of the primary lesion also offers the most effective means of symptom palliation, abdominal exploration with curative intent should be undertaken unless there is unequivocal evidence of disseminated disease, a neoadjuvant approach is considered, or there are other contraindications to surgery. The choice of operation for gastric cancer depends upon the location of the tumor within the stomach, the clinical stage, and the histologic type. (See "Gastric cancer: Pathology, pathogenesis, and risk factors"). The major surgical considerations include the extent of luminal resection (total versus subtotal gastrectomy) and the extent of lymph node dissection.

Total versus subtotal gastrectomy — Gastrectomy is the most widely used approach for therapy of invasive gastric cancer, although superficial cancers can sometimes be treated endoscopically. (See "Early gastric cancer"). Total gastrectomy (show figure 3) is usually performed for lesions in the proximal (upper third) of the stomach, while distal subtotal gastrectomy with resection of adjacent lymph nodes appears to be sufficient for lesions in the distal (lower two-thirds) of the stomach. However, patients with large midgastric lesions, or infiltrative disease (eg, linitis plastica) may require total gastrectomy.

Distal tumors — At least two trials show no added survival benefit for total compared to subtotal gastrectomy for patients with distal tumors [20,21]. In one of these reports, 169 patients undergoing potentially curative resection for antral adenocarcinoma were randomly assigned to total or subtotal gastrectomy [21]. The overall complication and perioperative mortality rates were 32 and 1.3 percent, respectively with total gastrectomy, and 34 and 3.2 percent with subtotal gastrectomy, respectively. Five-year survival was similar in both groups.

Similar results were noted in a trial of the Italian Gastrointestinal Tumor Study Group, in which the five-year survival rates were 65 and 62 percent in the subtotal and total gastrectomy groups, respectively [20]. In most series, quality of life after subtotal gastrectomy is superior to that after a total gastrectomy [22,23].

Proximal tumors — The issues guiding the extent of surgical resection are more complex for tumors of the proximal stomach and gastroesophageal (GE) junction. Tumors of the proximal stomach that do not invade the GE junction can be approached by either a total gastrectomy or a proximal subtotal gastrectomy. Total gastrectomy is preferred by most surgeons for the following reasons:

- The Roux-en-Y reconstruction performed during total gastrectomy is associated with an extremely low incidence of reflux esophagitis compared to the roughly one-third of patients who develop develop reflux esophagitis after a proximal subtotal gastrectomy [24].
- Proximal subtotal may fail to fully remove the lymph nodes along the lesser curvature. Thus,

the most common site of nodal metastases may not be fully treated surgically.

GE junction tumors — Three types of GE junction tumors have been described (Siewert classification) [25]:

- Type I — Carcinoma associated with Barrett's esophagus or true esophageal carcinoma growing down to the GE junction
- Type II — Tumors originating within 2 cm of the squamocolumnar junction
- Type III — Tumors of the subcardial region.

The origin of the tumor is sometimes unclear in patients who present with adenocarcinoma involving the GE junction. Patients with type I tumors are not appropriate candidates for a purely transabdominal approach. For type II or III tumors, a total gastrectomy may remove an adequate margin in the esophagus in patients with well- or moderately-differentiated histology.

The surgical options include a gastric pull-up to the neck or an Ivor-Lewis (combined transthoracic and transabdominal approach) type operation depending upon the exact location of the tumor and surgeon preference. Each operation has advantages and drawbacks. Some surgeons advocate total esophagogastrectomy with colonic interposition for advanced tumors of the GE junction [26]. However, this operation has been associated with significant morbidity and mortality and should only be used in extenuating circumstances, where a large amount of esophagus must be removed because of extensive tumor bulk and the stomach is not a viable conduit (eg, prior surgery, tumor extension).

Linitis plastica — In about 5 percent of primary gastric cancers, a broad region of the gastric wall or even the entire stomach is extensively infiltrated by malignancy, resulting in a rigid thickened stomach, termed linitis plastica. The prevalence may be higher in younger individuals [6,27]. Although most commonly due to poorly differentiated infiltrating gastric cancers, this pattern rarely represents metastatic spread from breast cancer.

Linitis plastica has an extremely poor prognosis [28-32]. In one report, one-half of all patients had metastatic disease (mainly within the peritoneal cavity) at diagnosis [32]. Nodal involvement is frequent and extensive surgery may be required for complete excision [30,33]. In a retrospective review of 87 patients, the one and seven year survival rates following gastrectomy were 50 and 8 percent, respectively [30]. Many surgeons consider the presence of linitis plastica to be a contraindication to potentially curative resection.

Extent of lymph node dissection — One of the most controversial areas in the surgical management of gastric cancer is the optimal extent of lymph node dissection. Japanese surgeons routinely perform extended lymphadenectomy, a practice that some suggest at least partially accounts for the better survival rates in Asian as compared to Western series (see "Prognosis" below) [34]. The term "extended lymphadenectomy" variably refers to either D2 or D3 lymph node dissection.

The draining lymph node basins for the stomach can be divided into sixteen stations: stations 1 to 6 are perigastric, and the remaining ten are located adjacent to major vessels, behind the pancreas, and along the aorta.

- A D1 lymphadenectomy refers to a limited dissection of only the perigastric lymph nodes.
- D2 lymphadenectomy entails removal of nodes along the hepatic, left gastric, celiac and splenic arteries as well as those in the splenic hilum (stations 1-11).
- D3 dissection includes nodes within the porta hepatis and periaortic regions (stations 1-16). Most Western surgeons classify disease in these regions as distant metastases, and do not routinely remove nodes in these areas during a potentially curative gastrectomy. Although the

number of lymph nodes within the regions covered by a D2 or D3 lymphadenectomy is variable, in one report in which lymphadenectomy was performed in 30 cadavers, D2 versus D3 dissection resected an average of 27 (range 17-44) and 43 nodes (range 25-64), respectively [35].

The arguments in favor of extended lymphadenectomy (ie, D2 or D3 versus D1) are that removing a larger number of nodes more accurately stages disease extent, and that failure to remove these nodes leaves behind disease in as many as one-third of patients [36,37]. A consequence of more accurate staging is to minimize stage migration (the Okie phenomenon, as described by Will Rodgers) [37,38]. The resulting improvement in stage-specific survival may explain, in part, the better results in Asian patients. In one trial, for example, 30 percent of patients undergoing surgery for gastric cancer were upstaged from N0/1 to N2 status when a D2 as compared to D1 lymphadenectomy was performed [37]. This resulted in a significant impact on the stage-specific survival.

There are two main arguments against the routine use of extended lymphadenectomy: the higher associated morbidity and mortality (particularly if splenectomy is performed in order to achieve extended lymphadenectomy), and the lack of a survival benefit for extended lymphadenectomy in most (but not all) randomized trials.

Randomized trials — Although retrospective reports suggest that extended lymphadenectomy improves survival [39-41], at least five prospective randomized trials both in Japanese and Western populations have failed to show a survival benefit with D1 versus D2 lymphadenectomy [20,42-44], or with D2 compared to D3 lymphadenectomy [45]. The range of findings can be illustrated by the three largest trials.

• MRC trial — The Medical Research Council (MRC) randomly assigned 400 patients undergoing potentially curative resection to a D1 or a D2 lymphadenectomy [43]. Postoperative morbidity was significantly greater in the D2 group (46 versus 28 percent), as was hospital mortality (13 versus 6 percent). The excess morbidity and mortality were clearly associated with the use of splenectomy and distal pancreatectomy to achieve complete node dissection. In a later follow-up, five year survival rates were no better for patients undergoing D2 compared to D1 dissection (33 versus 35 percent) [46].

• Dutch trial — The largest trial from the Dutch Gastric Cancer Group compared D1 with D2 lymphadenectomy in 711 patients who were treated with curative intent [44,47]. This trial relied heavily upon input from a Japanese surgeon, who trained the Dutch surgeons in the technique of radical lymph node dissection, and monitored the operative procedures. Despite these efforts to maintain quality control of the surgical procedures, both under removal and over removal of required nodal stations occurred, somewhat blurring the distinction between the groups.

As was shown in the MRC trial, both postoperative morbidity (43 versus 25 percent) and mortality (10 versus 4 percent) were higher in the D2 group. Moreover, a survival advantage in the radical dissection group was not observed, both in the initial report [44], and with longer follow-up [47], despite a significantly lower risk of recurrence.

• JCOG trial 9501 — In contrast to these data, the safety of D3 dissection was shown in a preliminary report of Japan Clinical Oncology Group (JCOG) Study 9501, in which 523 patients were randomly assigned to D2 versus D3 dissection [45]. Although the perioperative morbidity rate in the D3 group was slightly higher (28 versus 21 percent), there were no differences in major complications (anastomotic leak, pancreatic fistula, abdominal abscess, pneumonia), or in perioperative mortality (0.8 percent in each group). Long-term outcomes were not reported.

The conclusion of the Dutch trial (and its accompanying editorial [48]) was that D2 lymph node dissection did not confer a benefit compared to D1 dissection, and could not be routinely recommended. However, many clinicians consider that both the Dutch and the MRC trials are flawed. The design of the Dutch trial was based upon the assumption that radical lymph node dissection would increase the survival rate from 20 to 32 percent, a likely overestimation of

benefit, even for patients with serosal invasion or nodal disease. Furthermore, 40 percent of enrolled patients had early gastric cancer, an unexpectedly high value that was not anticipated when the trial was designed.

Moreover, both the MRC and the Dutch studies were small. If the proportion of patients with N2 disease is approximately 30 percent, and only approximately one-fourth of these patients survive five years after a potentially curative D2 lymphadenectomy, less than 8 percent of patients benefit long-term (0.25 x 0.30). These results indicate that one additional life might be saved for every 13 patients undergoing a D2 dissection, and that much larger sample sizes are needed [36].

The importance of surgeon and institutional expertise — The first United States study to assess outcome using Japanese lymphadenectomy criteria provided a sobering view of current surgical practice in patients with resectable gastric cancer [49]. In this randomized trial examining the utility of modern adjuvant chemoradiotherapy in 556 patients with potentially resectable gastric cancer, 54 percent underwent less than a D1 lymphadenectomy, while D1 or ≥D2 procedures were performed in 36 and 10 percent, respectively. (See "Adjuvant and neoadjuvant treatment of gastric cancer", section on Adjuvant combined chemoradiotherapy). The importance of lymphadenectomy extent on outcome was demonstrated when patients were stratified according to the Murayama Index [MI], a computer-based model that predicts the likelihood of disease in the regional nodal stations left undissected by the surgeon [50,51]. Median survival had not been reached in patients with a low MI, whereas it was only 27 months for cases with MI ≥5.

In view of these data, we believe that aggressive nodal dissection should only be performed in selected centers by surgeons who have demonstrated acceptably low operative morbidity and mortality rates. Our own experience, as well as that at Memorial Sloan Kettering and in Japan suggests that mortality rates under 2 percent can be achieved [45,52]. Unfortunately, such surgical expertise is limited in the United States, and data from the American College of Surgeons suggest that procedure-related mortality is significantly higher American [6]. Among patients with gastric tumors who presented to more than 700 hospitals between 1982 and 1987, the perioperative mortality rate was 7.2 percent.

Not surprisingly, variability in perioperative mortality appears dependent upon the volume of gastrectomies at individual institutions. In one series, perioperative mortality rates ranged from 8.7 to 13 percent at very high volume (over 21 procedures per year) and very low volume hospitals (fewer than 5 procedures per year) respectively [53]. The adjusted odds ratio for death at the highest compared to the lowest volume institutions was 0.72 (95% CI, 0.63-0.83).

Summary — Despite the results of randomized trials, major cancer centers still perform a D2 as compared to a D1 dissection, and treatment guidelines published by the National Comprehensive Cancer Network recommend that D2 lymph node dissection is preferred over a D1 dissection [54].

If there is a survival benefit to be gained by extended lymphadenectomy, it is limited to patients with few nodal metastases, and it requires that there be no added operative mortality. A pancreas and spleen-preserving D2 lymphadenectomy provides superior staging information, and provides the survival benefit associated with a D3 dissection while avoiding its excess morbidity. Splenectomy during gastric resection for tumors not adjacent to or invading the spleen increases morbidity and mortality without improving survival [55-57]. Thus it is not recommended unless there is direct tumor extension.

ADJUVANT AND NEOADJUVANT THERAPY — While complete resection provides the best chance for long-term survival, more than one-half of patients will have regional node involvement at the time of resection. Five-year survival rates are approximately 10 percent with N3 disease, 30 percent with N2 disease, and 50 percent with T3N0 disease (show table 1) [58]. These poor results with surgery alone, especially in patients with nodal metastases, provide the rationale for adjuvant and neoadjuvant approaches using chemotherapy, radiation therapy (RT), or a combination of the two.

Adjuvant chemoradiotherapy — The benefit of postoperative adjuvant combined modality therapy using contemporary RT techniques and leucovorin-modulated 5-fluorouracil was shown in a United States Intergroup study (INT-0116) which randomly assigned 603 patients to observation or chemoradiotherapy following potentially curative resection of gastric cancer [8]. The trial included patients with GE junction adenocarcinomas that extended at least 2 cm into the stomach. The details of the adjuvant regimen are provided elsewhere. (See "Adjuvant and neoadjuvant treatment of gastric cancer", section on Combined chemoradiotherapy).

Three-year overall survival and disease-free survival were significantly better for patients receiving chemoradiotherapy (52 versus 41 percent, and 49 versus 32 percent, respectively). These results have been considered by many to have changed the standard of care in the United States. However, many clinicians disagree with changing the standard of care based upon a single positive clinical trial when many other prior studies have failed to demonstrate a benefit. Moreover, interpretation of the benefit of chemoradiotherapy is complicated by the inadequacy of surgical treatment. Although D2 nodal dissection was recommended, it was only performed in 10 percent of enrollees, and 54 percent did not even have clearance of the D1 (perigastric) nodes (see "Extent of lymph node dissection" above). This noncompliance likely contributed to inferior survival and a 64 percent relapse rate in the surgery alone arm.

Nevertheless, patients undergoing potentially curative resection of gastric cancer should be offered postoperative combined modality therapy or preferably, entered into a clinical trial if they recover quickly and have no serious postoperative complications. These issues are discussed in detail elsewhere. (See "Adjuvant and neoadjuvant treatment of gastric cancer").

Neoadjuvant chemoradiotherapy — The goals of preoperative therapy are to increase resectability, reduce the rate of local and distant recurrences, and ultimately improve survival. Although preliminary data suggest a potential survival benefit for preoperative combined modality therapy for patients with localized disease [59], randomized trials are necessary to define benefit, particularly relative to postoperative chemoradiotherapy. This topic is discussed in detail elsewhere. (See "Adjuvant and neoadjuvant treatment of gastric cancer").

When feasible, patients should be enrolled on therapeutic trials evaluating the benefit of neoadjuvant or adjuvant therapies. Many surgeons who treat gastric cancer have a bias towards neoadjuvant or adjuvant therapy for two major reasons. First, the ability to deliver adequate postoperative therapy may be compromised by postgastrectomy complications; up to one-third of patients do not recover quickly enough to tolerate treatment within 4 to 6 weeks of surgery. Second, some patients have aggressive disease and develop metastases within a short period of time, despite having an adequate operation. These patients do not benefit from surgery, and the delay in operative intervention with neoadjuvant therapy may have permitted their identification prior to exploratory laparotomy, thus sparing them unnecessary surgery.

PROGNOSIS — Prognosis after resection varies according to the pathologic extent of disease, and the population studied. As noted above, Asian populations do somewhat better than Western populations. Although stage distribution accounts for much of this difference [60], outcomes differ even when stratified by stage [6,7,40,61,62].

The following five-year survival rates were reported in a series of 750 patients from MSKCC, in whom more than 15 lymph nodes were examined [18]:

- IA — 95 percent
- IB — 85 percent
- II — 54 percent
- IIIA — 37 percent
- IIIB — 11 percent

- IV — 7 percent

Somewhat lower five-year survival rates were reported in the National Cancer Data Base [63]:

- IA — 78 percent
- IB — 58 percent
- II — 34 percent
- IIIA — 20 percent
- IIIB — 8 percent
- IV — 7 percent

Nomograms have been developed to predict disease-specific survival following complete (R0) resection, which take into account the patient's age and sex, the primary tumor site and Lauren histologic subtype (ie, diffuse, intestinal, mixed), the depth of invasion, and the number of both positive and negative resected nodes (show figure 4) [64].

Sites of disease recurrence — The two major areas of treatment failure in patients with resected gastric carcinoma are local recurrence and distant metastases. In data from the American College of Surgeons, recurrence following attempted curative resection was local or regional in 40 percent and systemic in 60 percent [6]. In a reoperation series, locoregional recurrence was the only site of failure in 45 percent, but a component of failure in 88 percent of patients [65].

Sites of locoregional failure include the luminal margins, the resection bed and the regional nodal basins [18], while the predominant sites of systemic recurrence are the liver and peritoneum [66]. Metastatic disease beyond the abdomen is uncommonly the first site of recurrence aside from the supraclavicular nodes.

Treatment of recurrence — Curative resection is rarely possible in patients with recurrent disease. Most such patients require systemic chemotherapy or palliative RT. The treatment of advanced gastric cancer is discussed in detail elsewhere. (See "Management of advanced gastric cancer").

PALLIATIVE GASTRECTOMY — In patients with locally advanced or metastatic disease, surgical intervention may provide effective palliation of symptoms such as pain, nausea, bleeding, or obstruction. Radical gastrectomy in this setting provides no survival benefit, but palliative gastrectomy can provide symptomatic relief, and a possible improvement in survival, although this is controversial. The criteria for selection of patients who may benefit from palliative gastrectomy are not firmly established. These issues are discussed in detail elsewhere (See "Management of advanced gastric cancer", section on Palliative resection in advanced gastric cancer).

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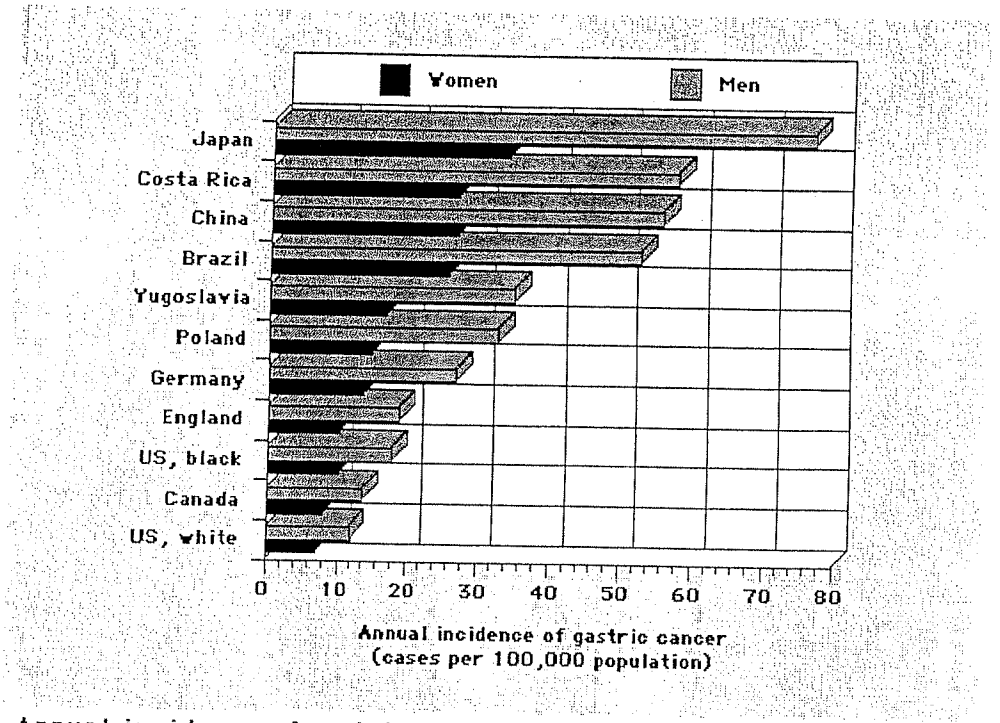
GRAPHICS



Annual incidence of gastric cancer International Agency for Research on Cancer data on the annual incidence of gastric cancer in selected countries according to gender. The rate is highest in Japan and lowest in the United States and Canada, and is greater in men than in women in all countries. (Data from Fuchs, CS, Mayer, RJ, N Engl J Med 1995; 333:32.)

Country	1950-1952	1977-1979	Percent change
Finland	109	29	-73.4
Switzerland	56	16	-71.4
Norway	61	19	-68.9
United States	27	9	-66.7
Sweden	46	16	-65.2
Denmark	43	15	-65.1
Belgium	47	18	-61.7
Canada	35	14	-60.0
West Germany	66	27	-59.1
France	41	17	-58.5
Australia	32	14	-56.3
Ireland	60	27	-55.0
England and Wales	45	22	-55.1
Scotland	54	27	-50.0
Czechoslovakia	75	43	-44.0
Japan	130	73	-43.8
Italy	62	35	-43.5
Northern Ireland	54	32	-40.7

Declining mortality from gastric cancer The annual age-adjusted mortality rates for gastric cancer in 1950-1952 compared with rates obtained in 1977-1979. The decline in death rate reflects a decrease in the incidence of the disease. (Adapted from from Boland, CR, Scheiman, JM, Tumors of the stomach. In: Textbook of Gastroenterology, Yamada, T, Alpers, DH, Owyang, C, et al (Eds), JB Lippincott, Philadelphia 1991. p.1355.)

American Joint Committee on Cancer Staging for Gastric Cancer†

Tumor (T) stage

TX		Primary tumor cannot be assessed
T0		No evidence of primary tumor
Tis		Carcinoma in situ: intra-epithelial tumor without invasion of the lamina propia
T1		Tumor invades lamina propria or submucosa
T2		Tumor invades muscularis propria or subserosa
	T2a	Tumor invades muscularis propria
	T2b	Tumor invades subserosa
T3		Tumor penetrates serosa (visceral peritoneum) without invasion of adjacent structures*
T4		Tumor invades adjacent structures*

* The adjacent structures of the stomach include the spleen, transverse colon, liver, diaphragm, pancreas, abdominal wall, adrenal gland, kidney, small intestine, and retroperitoneum. Intramural extension to the duodenum or esophagus is classified by the depth of the greatest invasion in any of these sites, including the stomach.

Nodal (N) stage

NX	Regional lymph node(s) cannot be assessed
N0	No regional lymph node metastasis
N1	Metastasis in 1 to 6 regional lymph nodes
N2	Metastasis in 7 to 15 regional lymph nodes
N3	Metastasis in more than 15 regional lymph nodes

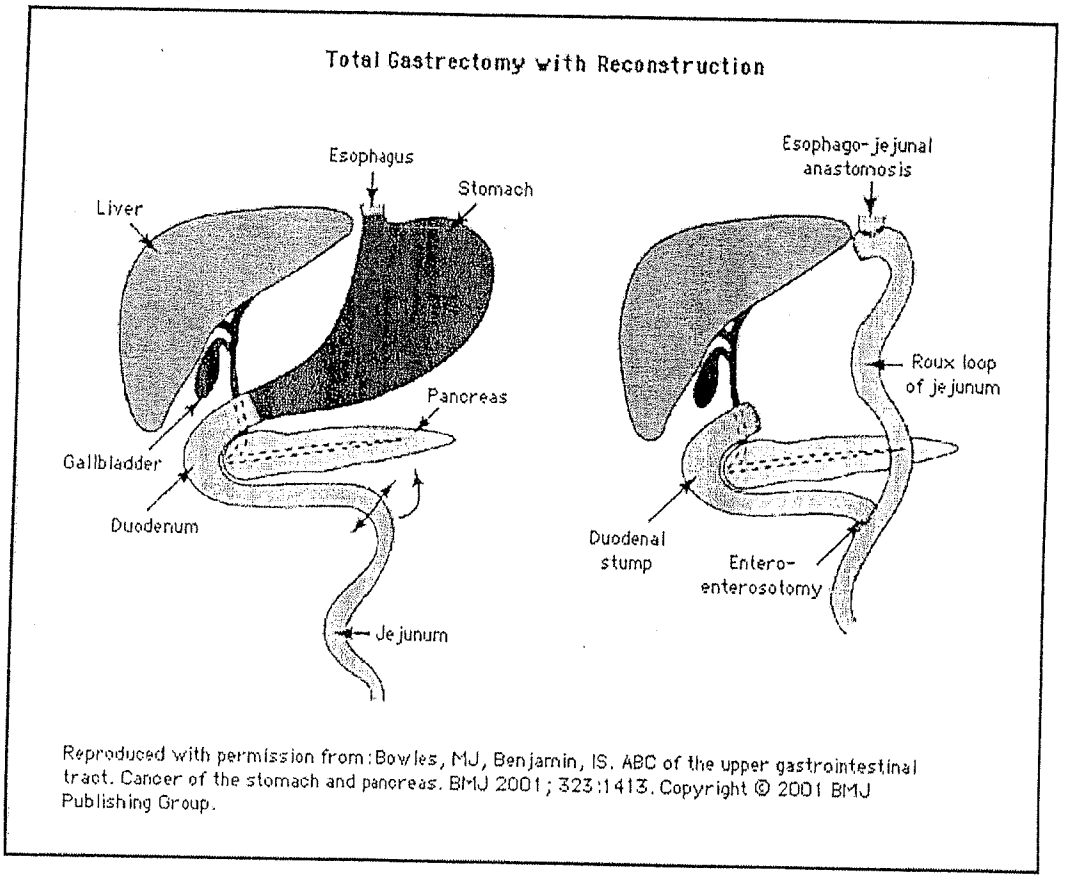
Metastasis (M) stage

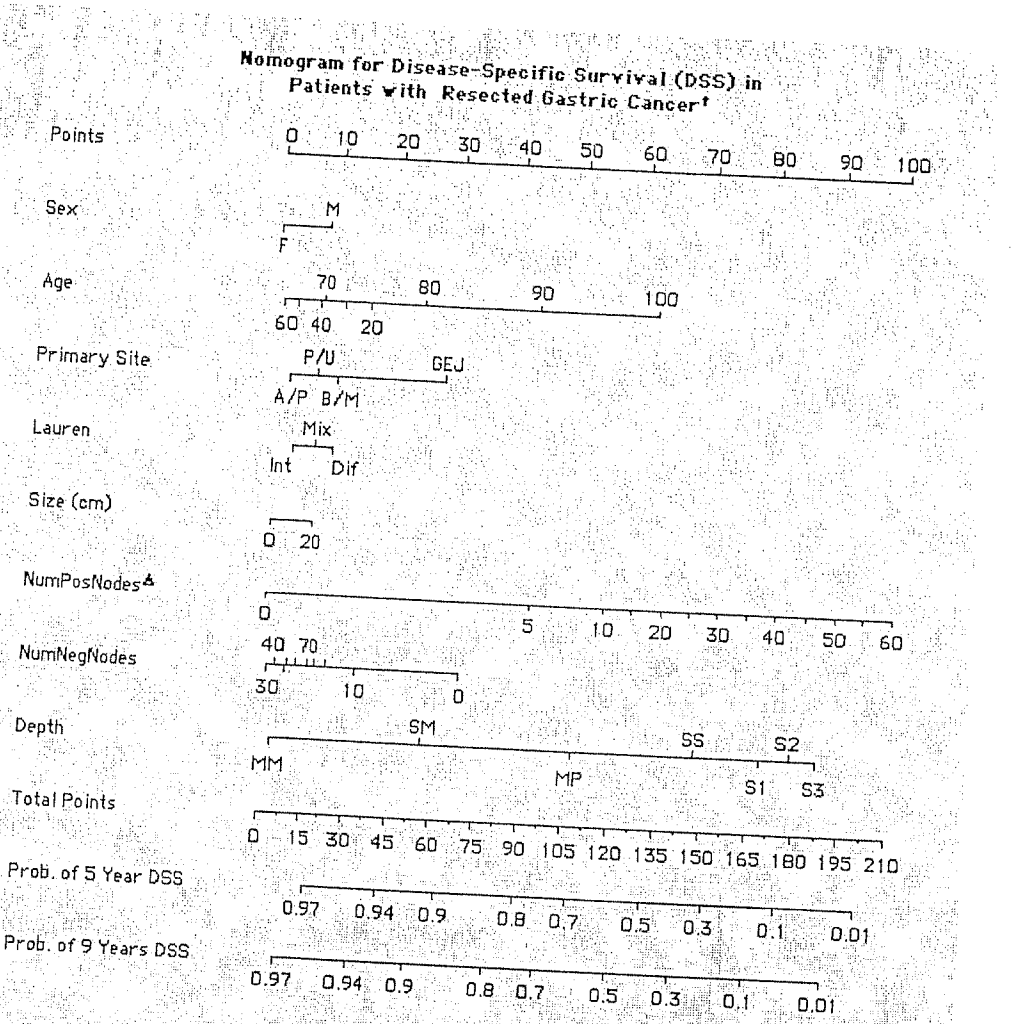
MX	Presence of distant metastasis cannot be assessed
M0	No distant metastasis
M1	Distant metastasis

Stage grouping

Stage 0	Tis N0 M0
Stage IA	T1 N0 M0
Stage IB	T1 N1 M0, T2a/b N0 M0
Stage II	T1 N2 M0
	T2a/b N1 M0
	T3 N0 M0
Stage IIIA	T2a/b N2 M0
	T3 N1 M0
	T4 N0 M0
Stage IIIB	T3 N2 M0
Stage IV	T1-3 N3 M0
	T4 N1-3 M0
	Any T Any N M1

† Used with the permission of the American Joint Committee on Cancer (AJCC), Chicago, Illinois. The original source for this material is the AJCC Cancer Staging Manual, Sixth Edition (2002) published by Springer-Verlag New York, Inc.





Instructions for physician: Locate the patient's sex on the **Sex** axis. Draw a line straight upwards to the **Points** axis to determine how many points toward gastric cancer-specific death the patient receives for his or her sex. Sum the points achieved for each predictor and locate this sum on the **Total Points** axis. Draw a line straight down to the disease-specific survival axes to find the patient's probability of surviving gastric cancer assuming he or she does not die of another cause first.

▲NumPosNodes, number of positive nodes; NumNegNodes, number of negative nodes; Prob., probability; A/P, antrum or pyloric. B/M, body of middle one third, GEJ, gastroesophageal junction; P/U, proximal or upper one third; int, intestinal; mix, mixed; diffuse; MM, mucosa; MP, propria muscularis; S1 suspected serosal invasion; S2, definite serosal invasion; S3 adjacent organ involvement; SM, submucosa; and SS, subserosa.

Appendix E 4

Cook Peter

From: Karen Roach [Karen_Roach@health.qld.gov.au]
Sent: Thursday, 21 April 2005 10:32 AM
To: Peter.Cook@mater.org.au
Subject: Re: Private and Confidential

Thank Peter for your vigilence and prompt notification. I have spoken with the Central Zona Manager, Dan Bergin, who will deal with it immediately.

regards

Karen

>>> Cook Peter <Peter.Cook@mater.org.au> 04/20/05 06:02pm >>>
Karen,
I apologise for writing to you directly but I'm sure you'll appreciate the sensitive nature of this note.
Today I posted a letter to Dan Bergin concerning the Whipple's procedure performed at Hervey Bay Hospital as you requested.
In recent discussions with one of the referring doctors in Hervey Bay [not surgeon] by phone, he made mention of a recent patient transferred from Hervey Bay to Princess Alexandra Hospital Intensive Care who subsequently died following a total gastrectomy performed in Hervey Bay. I am able to confirm that this did in fact happen. I was concerned that this could be evidence of a pattern of practice. The details of the gastrectomy patient are none of my business however I did contact Chris Joyce to ensure that this case has been notified to the Southern Zone Office. Chris was in the middle of a ward round but had no recollection of the case so I assume this means that this notification may not have occurred.
The issues with role delineation of the hospital and frequency of performance of the procedure are broadly similar for Whipple's procedure as for total gastrectomy. I will forward an "Up-to-Date" summary which makes specific mention on page six of volume of cases and mortality. To quote a sentence:
" The adjusted odds ratio for death at the highest (> 21 procedures per year) versus the lowest volume (< 5 procedures per year) institutions was 0.72 [95% confidence interval 0.63 - 0.83] "
Thank you for managing this as appropriate.
Yours Sincerely,
Peter

Dr Peter D. Cook
Complex-Wide Director of Adult Critical Care Services
Mater Health Services
Raymond Terrace
South Brisbane
Queensland

Cook Peter

From: King Jenny
Sent: Friday, 22 April 2005 3:07 PM
To: Cook Peter; Townsend Shane
Subject: Whipple's procedures

Peter and Shane
Having notified Central Zone mgt and QH about our concerns regarding Whipple's Procedures, where they are done/not done I know that QH have taken our request to examine this issue seriously.Dan Bergin (CZ Mgr)phoned me to thank us for letting him know about this instance and to let me know that based on our advice they QH have done/started an audit of this procedure in their own hospitals and are examining a range of complex surgical procedures that are done/not done in regional centres. Bundaberg is obviously contributing to and driving this process. I believe we have met our moral and professional obligations in informing appropriate mgt at this stage and I have confidence-in part due to the current climate-that corrective action is occurring and not just in Hervey Bay or Bundaberg.
I would appreciate being kept informed of the patient's status. I know you would normally be very circumspect anyway but it is particularly important at this time.
Jenny

r Jennifer King
Executive Director
Mater Adult Women's and Children's Health Services
Raymond Terrace
South Brisbane QLD 4101
Ph: 3840 8436
Fax: 3840 1744
Email: Jenny.King@mater.org.au
Please note the change in format of email address

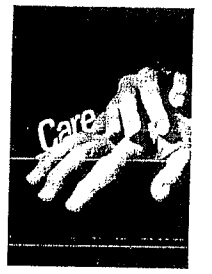
Mater

Exceptional People. Exceptional Care.

MATER ADULT INTENSIVE CARE UNIT

24th May 2005

Mr Michael Barnes
State Coroner
11th floor
Central Courts Building
Brisbane Magistrates Court
179 North Quay
BRISBANE Qld 4000



Dear Mr Barnes

I am writing to you concerning the death of P366 . This sixty-six year old lady died at the Mater Adult Hospital on 21st May 2005. I rang and spoke to you concerning this death on 23rd May 2005, and this letter is to follow up the issues we discussed.

I believe this to be a reportable death as the death was not the reasonable expected outcome of the heath procedure that this lady had undertaken. I respectfully suggest that there may be findings which may prevent similar deaths from happening in the future.

P366 was a sixty-six year old female who was admitted to the Mater Adult Hospital on 25th March 2005. She had been transferred from Harvey Bay Hospital where she had a Whipple's Procedure performed a few days prior to her admission to Mater Adult Hospital. Unfortunately her post operative management in Harvey Bay was complicated and she required a return to the operating theatre and subsequently high level organ support involving ventilation, inotropes and had developed anuric renal failure.

After admission to Mater Adult Hospital further surgery was undertaken however after three subsequent laparotomies, it was deemed that her abdominal complications of the original surgery were not able to be fixed. This left her with a biliary tree which was not able to be drained and persistent abdominal fistulae.

In view of her limited life expectancy from the cancer in her pancreas, and the fact that she was gravely unwell and was looking at a prolonged hospitalisation and in conjunction with her family, the decision was made to focus on comfort care rather than continued aggressive intensive care. With this approach P366 died on the 21st May 2005.

From my perspective there are three issues raised by this case. They all revolve around whether an operation of this size and complexity should be done at a hospital like Harvey Bay. I have enclosed a summary from a peer reviewed United States medical resource focusing on the peri-operative morbidity and mortality associated with cancer surgery of the pancreas. To quote the relevant section

> "One of the most important reasons for this (low peri-operative mortality) is the greater experience of a limited number of surgeons who perform the procedure regularly in high volume institutions. This was illustrated in data derived from the Medicare Database in which a nearly fourfold increase in mortality was noted when comparing pancreatic duodenectomy performed in hospitals with less than one case per year to those performing more than 16 cases per year. Other reports suggest that long term outcomes have similarly improved."

The first of the three issues that need to be considered is the training of the surgeon. Has the surgeon that performed this procedure received sufficient training in this type of surgery to make his performance of this operation appropriate?

The second issue needing consideration is whether the surgeon is currently performing sufficient of these procedures to maintain his competence. Quoting from the Medicare Database (US) it would appear that the surgeon should be performing more than sixteen cases per year. I would be surprised if that was the case in Harvey Bay.

Thirdly, does Harvey Bay Hospital have sufficient resources to support someone having such extensive surgery? In view of the fact that the patient needed to be transferred in the early post operative period, it would appear that the answer to this question is "no". The way that this is addressed is by reviewing the hospital's role delineation. Queensland Health has been working on establishing role delineations for their hospitals over the last few years.

In short, for a procedure like this to be performed, it is appropriate that the surgeon be appropriately trained, sufficient numbers of these case should be done to maintain that level of competence and the hospital should be of a size that the complications can be managed appropriately. I am unable to answer questions in relation to the surgeon's training. I would be surprised in sixteen Whipple's Procedures were performed in Harvey Bay per year. Clearly Harvey Bay does not have the robust Intensive Care and support services to back up the performance of this type of surgery.

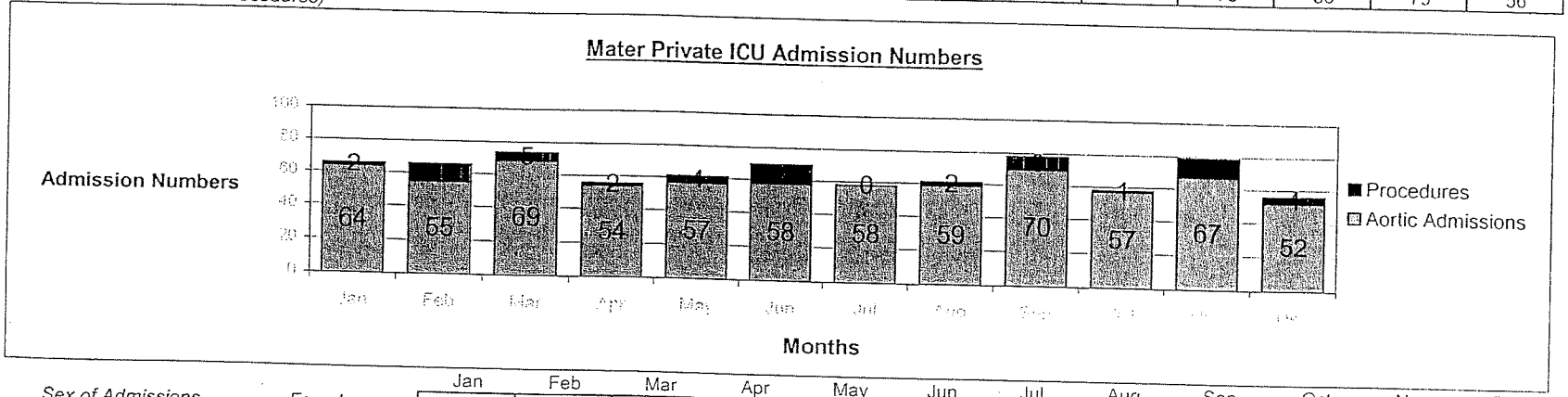
Thank you for reviewing the sad case of P366. I hope that your findings may result in the prevention of similar deaths from happening in future

Yours sincerely

Mater Misericordiae Private Hospital

Intensive Care Data Collection Report 2004

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Total Patient Numbers (Aortic Admissions + Procedures)	66	66	74	56	61	70	58	61	78	58	79	56

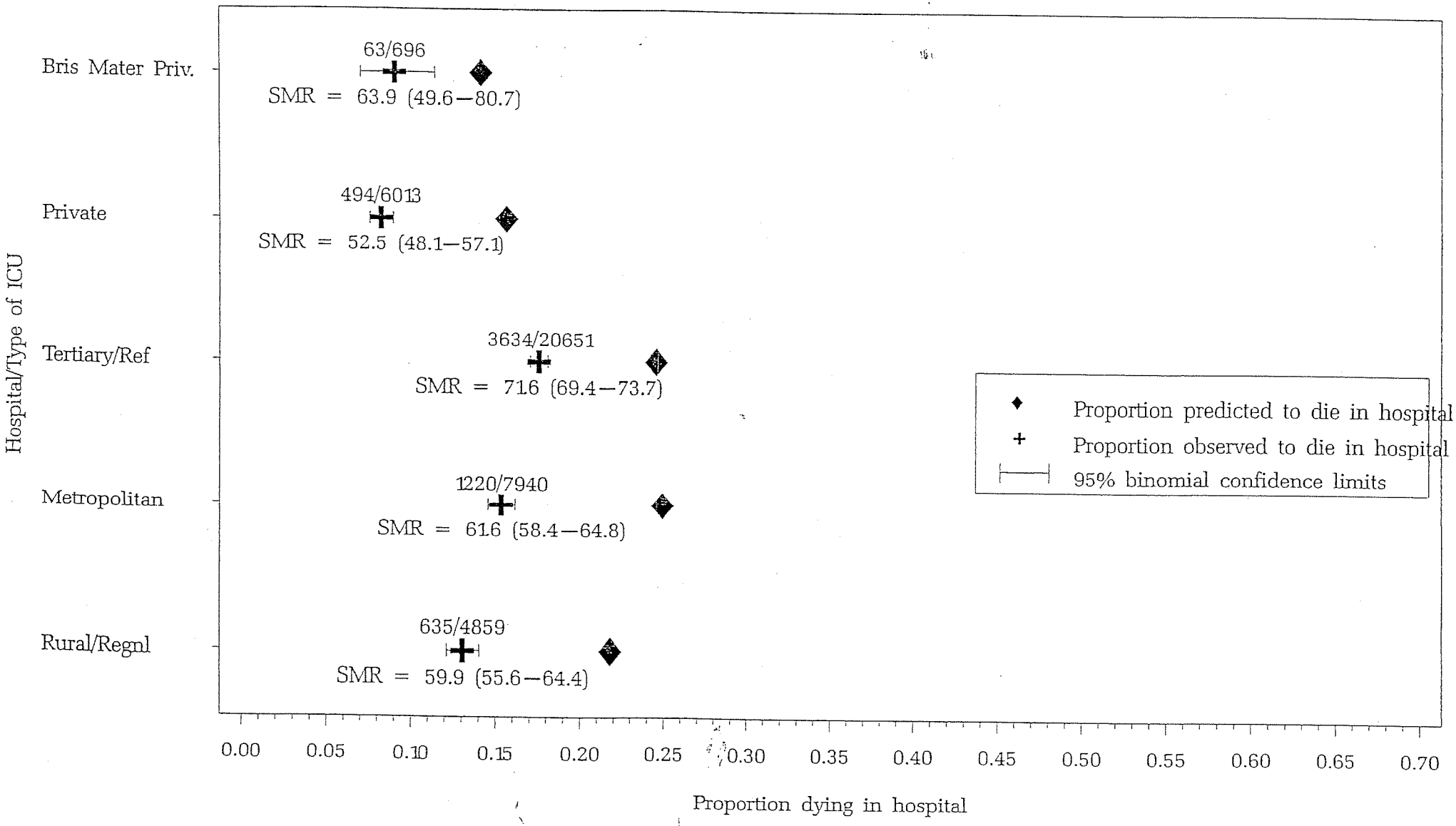


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Sex of Admissions - Female	28	19	30	27	29	35	36	30	30	25	36	30
Male	36	36	39	27	28	23	22	31	40	32	31	22
Elective Admissions	42	36	42	30	38	30	30	29	36	29	41	28
Emergency Admissions	22	19	27	24	19	28	28	32	34	28	26	24
Number of Ventilated Patients	14	12	19	13	13	17	23	19	18	11	21	16
Number of Ventilated Episodes	15	12	19	14	14	19	23	20	18	14	21	17
Ventilator Hours	576.76	1522.41	1513.97	689.08	879.17	1604.53	2242.43	1909.85	863.84	1465	1540.9	1671.18
Readmissions within 72 Hours	3	2	2	nil	1	2	1	1	nil	nil	nil	nil
ICU Refusals	nil	nil	2	nil	nil	nil	7	2	1	1	nil	nil
Source of Admission to ICU - Emergency Dept	7	1	5	4	1	9	2	2	7	4	nil	3
OT	44	39	50	37	45	39	37	39	51	37	46	32
Other Hospital	3	5	4	2	2	2	4	5	4	2	2	5
Ward	10	10	10	11	9	8	15	15	8	14	19	12
Deaths in ICU	3	2	2	1	2	4	4	2	3	1	4	5
Deaths following ICU	1	2	5	2	2	4	2	1	3	2	2	4
Occupied Bed Days	125.23	161.29	196	131.27	143.02	165.58	193.12	175.53	160.03	187.08	191.63	147.64
Average Length of Stay (Days)	2.13	3.12	2.64	2.54	2.36	2.88	3.55	2.72	2.21	4.27	2.16	2.97
Maximum Length of Stay (Days)	17.02	46.77	19.68	12.68	9.16	20.83	34.22	22.88	9.72	41.55	9.58	29.85
Minimum Length of Stay (Hours)	7	9	13	6	15	0	2	8	5	16	5	1
Number of Admissions with Stay > One Week	2	4	4	7	5	6	6	5	4	8	2	3

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Apache II Diagnostic Groups (No. of Pts) - Respiratory	15	16	14	14	10	9	13	16	15	12	17	6
Trauma	nil	1	1	1	nil	nil	nil	1	nil	nil	nil	nil
Cardiovascular	8	9	18	12	9	19	11	15	15	16	22	15
Gastrointestinal	9	10	20	13	14	11	12	11	17	7	8	12
Neurologic	27	17	15	14	22	17	20	15	20	22	18	16
Renal/Genitourinary	2	1	nil	nil	1	nil	2	3	1	nil	2	1
Haematologic	nil	1	nil	nil	nil	nil	nil	nil	nil	nil	nil	1
Metabolic	3	nil	1	nil	1	2	nil	nil	2	nil	nil	1
Average Apache II Score	11.4	11.9	13.3	11.7	12.1	12.5	12.6	13.1	11.7	11.7	12.9	13.4
Standard Deviation Apache II Score	4.9	7	6.4	6.5	5.7	6.4	6.6	5.8	6.4	6	5.6	7.6

NB: Maximum LOS is worked out by adding total admission days to ICU ad[illegible]ion month, not divided between months of stay.

Observed vs APACHE II Predicted Hospital Outcome for ICU patients
Brisbane Mater Private Hospital and pooled data
ICU admissions from 01/01/04 to 31/12/04



Predicted mortality calculated from APACHE II scores and diagnosis categories using the model published by Knaus WA *et al.* ***Crit Care Med*** 1985;13:818—829
Note: Patients aged < 16 yrs or with ICU stays < 8 hrs or with unknown outcome of their stay in hospital (incl. transfers out) have been excluded.
Produced by the ANZICS ICU Outcomes Reporting System

30 APR 2002

Queensland Government

Queensland Health
Enquiries to: Ms Lorraine Hooper
Private Health Unit, Office of the Chief Health Officer
Telephone: (07) 323 41162
Facsimile: (07) 322 17535
E-mail: lorraine_hooper@health.qld.gov.au
File Number: PHU – M8(2)

F

Dr J Hudson
Executive Director
Mater Misericordiae Private Hospital
301 Vulture Street
SOUTH BRISBANE Q 4101

Dear Dr Hudson

Re: Licence to Operate a Private Health Facility No QDH1037/93
Private Health Facilities Act 1999
Provision of Adverse Outcome Data

I wish to acknowledge receipt of the adverse outcome data for the period 1 July 2001 to 31 December 2001 submitted in accordance with section 144 of the *Private Health Facilities Act 1999*.

I have reviewed the data and the incidences of adverse outcomes for Intensive Care. I wish to draw your attention to the mortality rate of 5.83% for 309 patients of Mater Misericordiae Private Hospital. For your information, the Queensland Private Hospitals state average for this period of collection is 3.46 %.

I am seeking your explanation for the higher incidence of adverse outcomes and require your written response within 30 days of the date of this correspondence.

If you require further clarification on this matter please do not hesitate to contact Ms Lorraine Hooper, Manager, Private Health Unit on (07) 3234 1162.

Yours sincerely

Prof. C B Campbell
Chief Health Officer
29/ 4 /2002

30/4/02
cc Peta Cook
for draft response please

A/CD

Office
Queensland Health Building
147 - 163 Charlotte Street
BRISBANE Q 4000

Postal
PO Box 48
BRISBANE Q 4001

Phone
(07) 323 41138

Fax
(07) 322 17535

MATER MISERICORDIAE PRIVATE HOSPITAL

Intensive Care Unit Adverse Outcomes

INDICATOR 1: ADVERSE CLINICAL OUTCOME		
Denominator:	Total number of patients	309
A. Patient deaths		
Numerator:	The number of deaths which have occurred in the intensive care unit.	18
B. Unintended injuries to patients which was caused by health care management		
Numerator:	The number of unintended injuries to patients which was caused by health care management and not the patients underlying disease which resulted in: 1. Death 2. Temporary or permanent disability, or a prolonged length of stay.	
C. Unexpected readmission after discharge		
Numerator:	The number of unexpected, readmissions within 28 days to the health care facility for further treatment of the same condition, or treatment of a condition relating to one which the patient was previously hospitalised or for a complication of the condition for which the patient was previously hospitalised.	
D. Unplanned transfers from intensive care to the operating theatre.		
Numerator:	The number of unplanned transfer of patients to the operating theatre of the private health facility.	
E. Unplanned removal, injury or repair of an organ		
Numerator:	The number of unintended injuries to patients which resulted in removal, injury or repair of an organ.	
INDICATOR 2: TRANSFER TO ANOTHER HOSPITAL		
A. Number of patients transferred to another hospital		
Numerator:	The number of patients who where transferred to another health care facility because adequate treatment/care or overnight hospitalisation could not be given at the private health facility.	

Comments: _____

Submit to: *Private Health Unit, GPO Box 48 Brisbane 4001*

21 MAY 2002

Mater Misericordiae
Private Hospital
Catherine McAuley Place
301 Vulture Street
South Brisbane
Queensland 4101
Australia

Telephone
07 - 3840 1111

Facsimile
07 - 3846 3980

20 May 2002

Mr Don Murray
Executive Director
Mater Private Hospital
301 Vulture Street
SOUTH BRISBANE QLD 4101

Dear Don,

I am writing to you in response to your request for clarification of adverse outcome data as it relates to The Mater Private Hospital, [QLD HEALTH ref PHU:M8(2)].

I appreciate that the provision of adverse outcome data is still undergoing some refinement, however, I found the QLD HEALTH letter dated 29 April 2002, difficult to interpret. The quotation of a central tendency, (mean), but no measure of dispersal, (eg: standard deviation), made interpretation difficult. The fact that their letter gave us no indication of the members of our cohort group also made comment difficult. Clearly the underlying diagnosis in these patients is important to consider. From that perspective, The Mater Private Hospital has a significant number of cancer patients, both haematology and oncology, as well as being a major referral centre for oesophageal cancer and thoracic surgery. I note also that survey takes no account of their measures of patient acuity. For all these reasons, I find being asked to comment on any difference in the mortality rate of people in our Intensive Care Unit versus a state average difficult.

On our own review of the 18 patients who died during this six month period while admitted to our Intensive Care Unit, it was noted that treatment was withdrawn in 15 of these patients. This was either due to the patient's extreme of age or the fact that their disease was both severe and regarded as terminal. I believe this only goes to highlight the fact that the nature of the patient's underlying condition must be included in any assessment of mortality rate.

There is also another factor that needs to be considered in interpreting this data. That is that the over reliance on bland outcome data could potentially impact on style of patient care to the patient's detriment. By this I am referring the fact that patients with poor prognostic features could potentially be excluded from Intensive Care so as our figures are reported as being acceptable. More realistically, this may impact on a desire to transfer patients to the ward where treatment has been withdrawn. Clearly such patients would not be included in the incidence of mortality in Intensive Care. Both of these are scenarios that The Mater Private with reference to our ethical nature and mission statement will resist at all costs.

Could I respectfully suggest that involvement of a biostatician with an interest in Intensive Care practice be considered? I would also suggest that consultation with Intensive Care professional organisations, (The Australian & New Zealand Intensive Care Society, 233 Rathdowne Street, CARLTON VIC 3053), be considered so as appropriate data can be both collected and interpreted.

I trust this answers the question you raised in your letter to your satisfaction. I am more than happy to discuss this further should you require.

Yours sincerely,

Peter Cook
Director of Complex-Wide
Adult Critical Care Services
Mater Private Hospital

Mater
Misericordiae
Private Hospital

5 June 2002

Prof. C B Campbell
Chief Health Officer
Queensland Health
PO Box 48
Brisbane QLD 4001

Dear Prof. Campbell

Provision of Adverse Outcome Data
Your Ref: PHU – M8(2)

I refer to your letter of 29 April 2002, to our Dr Julie Hudson, regarding the mortality rate associated with the Intensive Care Unit at this facility.

Having been recently appointed to the position of Executive Director of the Mater Private Hospitals in South Brisbane and Redland, I have assumed responsibility for our response in this matter.

The Director of the Mater Private ICU, Dr Peter Cook, has reviewed both your request for clarification and the individual cases that gave rise to the adverse outcome data for the period in question.

I have, on this occasion, chosen to attach a copy of Dr Cook's response for your information, as I find his remarks to be helpful, relevant and so succinct that any transcript on my part may only detract from its pertinence.

I addition to Dr Cook's remarks however, I do wish to draw your attention to the following points.

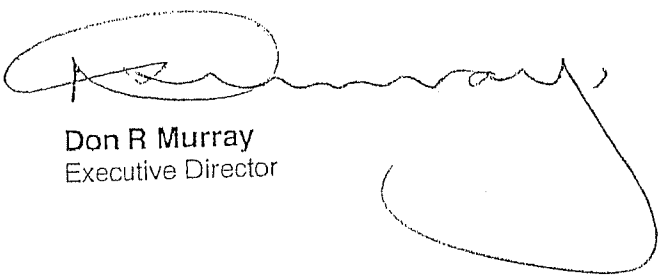
It is commonplace for Intensive Care Units to be located in tertiary facilities where complex procedures, such as Cardiothoracic surgery, are performed. In such casemix environments, a regular presence of post-surgical patients with a sound prognosis will undoubtedly contribute towards a lower overall mortality rate within the unit.

The Mater Private ICU, whilst certainly servicing an element of post-surgical patients, is regularly populated with advanced cancer and Emergency Centre admissions with less favourable prognoses. Mater Private does not cater for Cardiothoracic surgery and, accordingly, any comparison of ICU outcomes without due recognition/correction for casemix and admission source is, in our opinion, seriously flawed.

We have, nevertheless, conducted a detailed review of the cases represented in the adverse outcome data to which you refer, and we are confident that there is absolutely no basis for concern regarding clinical practice or patient care.

I trust that our response is sufficient for your enquiry and would welcome your direct contact should you wish to discuss this matter further.

Yours sincerely



Don R Murray
Executive Director

Queensland Government

Queensland **Health**

Enquiries to: Catherine Ryan Project Officer, Private Health Unit, Office of the Chief Health Officer
Telephone: (07) 323 41072
Facsimile: (07) 322 17535
Our Ref: PHU – M8(2)

Mr D Murray
Executive Director
Mater Misericordiae Private Hospital – South Brisbane
301 Vulture Street
SOUTH BRISBANE Q 4101

Dear Mr Murray

I wish to acknowledge receipt of correspondence received on 13 June 2002 in response to my request for an explanation for the higher incidence of adverse outcomes at your facility for Intensive Care for the period 1 July 2001 to 31 December 2001.

Thank you for your correspondence, the contents of which have been noted.

Yours sincerely

Professor C B Campbell
Chief Health Officer
14 / 6 /2002

Office
Queensland Health
147-163 Charlotte Street
Brisbane QLD 4000

Postal
G PO Box 48 Brisbane
QLD 4001

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(07) 323 41137

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15-9

PROVISION OF INTENSIVE CARE IN RURAL AUSTRALIA

Peter Cook
Director of ICU
Lismore Base Hospital

Presented at
2000 ANZICS Meeting
in Canberra

DEFINITION

1998 Intensive Care Survey from ANZICS Research Centre for Critical Care Resources divided intensive care units into those in capital cities, metropolitan centres (urban centres with a population of greater than 100,000), rural centres (population between 10,000 and 99,000) and remote centres (Alice Springs and Mt. Isa.)
This is derived from an Australian Institute of Health and Welfare Report published in 1999 on the Medical Labour Force 1997.

GEOGRAPHY

The 1998 ANZICS survey showed that of the 1646 Australian ICU beds identified, 306 are in rural or remote areas. This comprises 19% of the total beds and 13% of the ventilated beds in Australia. 23% of all patients admitted to Australian ICU's and 17% of Australian ICU bed days are in rural or remote areas however only 8% of ventilator days are in these areas.

STAFFING

Medical
In Australia there are 220 FTE intensive care specialists making a rate of 1.21 per 100,000 population. Rural and remote centres contribute 9% of those people.
Nursing
Data for public FTE nursing staff show that 22% of these positions are in rural and remote areas.

PROBLEMS WITH RURAL UNITS

Medical

Nature of Work:
A major feature of rural practice is the variability of workload, both in amount and scope. Without the averaging effect of transfers between capital city hospitals, units in rural centres can vary from overflowing to empty. This can cause problems with unit budgets if this is based on an episode-funding model.
The scope of rural intensive care is broad with potential for adult, paediatric and obstetric patients, all in beds beside each other.
Responsibilities outside of intensive care can vary and encompass emergency department resuscitation and trauma calls, parenteral nutrition, retrieval organisation and performance, assessment and resuscitation of ward patients as well as administration and teaching of residents and medical students. In a tertiary referral hospital some of these activities may be performed by other departments or intensive care senior registrars.

The duration of time on call can be onerous and this may be inversely proportional to the amount of support from associated departments such as anaesthesia.
This needs to be remembered and intensive care involvement by non-intensivists needs to be encouraged in the rural setting.
Locum relief can prove difficult and this may interfere with both holidays and study leave requirements.
Medical and surgical sub-specialists may not be available in the rural setting and this can be compounded by poor bed availability in tertiary referral hospitals. Resulting from this a rural practitioner may end up managing patients they feel are at the limits of their expertise.

Qualifications:
There is a perception by rural specialists who are non-intensivists that their input is not valued by the broader Australian intensive care community. This view, I believe, has some validity.
Without a qualified Intensivist, registrar exposure to intensive care is restricted and it is unclear whether MBS item numbers can be changed.

Recruitment:
Recruitment can prove difficult due to a variety of factors. Separation anxiety from tertiary centres exists and can be exacerbated by geographic location. A perception of deskilling associated with rural practice may discourage recruitment.
Can you partner live or work in a rural centre?
Are the educational opportunities for children equivalent in the country?

Income:
Should people who work in the country be paid more or less than people in the city? Few rural intensivists have access to a private hospital intensive care. If people are to be encouraged to settle in difficult to staff rural areas, is it realistic that they earn less than in a capital city? Surely supply and demand must play a role here.

A Voice:
Where is the rural voice of Australian Intensive Care? 19% of the ICU beds for minimal input to professional bodies.

Nursing
Nursing issues have much in common with those already mentioned.
Nurses need a variety of skills to cope with the variability of workload. This can be aggravated by a lack of nursing agency staff and a limited and fluctuating casual pool.
Frequent requests to work double shifts may be the only solution for peak periods.
From a small staff pool this can be very demanding.
Patient care can be complicated by the lack of more senior medical staff in house after hours.
Professional education issues present difficulties for critical care nurses everywhere. This revolves around the cost of the course, travel and accommodation expenses. The cost is compounded if it occurs in the nurse's own time. No increase is pay may result directly from these activities by way of compensation.

SUPPORT SERVICES.
These may be limited with secretarial staff having a restricted role.
Problems can arise with delayed laboratory services, unavailable radiology (eg. MRI) or allied health input.

ADVANTAGES

Is it all doom and gloom? Rural hospitals often have established close community support with a high community profile.

Close working relationships exist between many of the staff. Sun, beaches, congestion free roads, happy children and spouse are all listed as advantages. The reality depends on your circumstances.

SOLUTION

Rural intensive care has problems. How can these be addressed? The solution involves at least four steps.

1. Recognition must be made that rural intensive care is an established and useful entity by:
   a. Faculty
   b. ANZICS
   c. Medical Board
   d. Medical Council

2. Mandatory six-month rural rotation in ICU training programme.

3. Intensive care training for non-intensivists bound for rural Australia.

4. Rural voice at high level of faculty and ANZICS.

NSW Public Health Bulletin March 2002

THE NSW HEALTH RESOURCE DISTRIBUTION FORMULA AND HEALTH INEQUALITIES

Andrew Gibbs, Rick Sondalini, Jim Pearse
Funding and Systems Policy Branch
NSW Department of Health

Citation: *NSW Public Health Bulletin* 2002; 13(3): 42-44

BACKGROUND

A key feature of the NSW health system is its 17 geographically-based area health services (AHSs). Funding to the AHSs by the NSW Department of Health has been guided by the objective of providing the AHSs with a share of resources that allows the achievement of comparable access to health services, assuming the achievement of reasonable levels of efficiency.[1] The mechanism for achieving this objective is the Resource Distribution Formula (RDF). Since the late 1980s, the formula has been used to guide the allocation of funding to the AHSs and to monitor progress towards the achievement of geographical equity in health funding across NSW.

The RDF reflects a strong commitment to the idea that population-based funding should be directed to communities in accordance with their health needs, thus addressing one potential contributor to health inequalities: inequitable access to health services. It has been suggested that a population needs-based funding approach would also address equity at a national level, through better integration and targeting of various funding streams based on need.[2]

This paper briefly describes the RDF and discusses the role the formula might play in reducing health inequalities and responding to the inequitable distribution of health needs across the NSW population.

DESCRIPTION OF THE RESOURCE DISTRIBUTION FORMULA

The RDF is constructed using two sets of measures: measures that attempt to measure the relative need of populations within the AHSs, and measures that attempt to address legitimate differences in service delivery costs between the AHSs. These measures are considered in relation to each of the major programs of the NSW health system.

The starting point for need-measures is typically the population of each area, both current estimates and future projections. Consideration is then given to the influence of the age and sex composition on the need for services. Finally, attention is paid to other factors that are demonstrated to influence the need for services. In this context, the NSW Department of Health has developed, in collaboration with the Health Services Research Group at the University of Newcastle, a ëhealth needs indexí for non-tertiary and non-obstetrics services. The development of this index parallels research sponsored by the English National Health Service for the development of indices of need for use in their

funding arrangements.[3,4,5]

The version of the NSW health needs index currently in use was developed in 1994, and it takes into account the influence of three factors: premature mortality (Standardised Mortality Ratio less than 65 years), socioeconomic status or EDOCC (Australian Bureau of Statistics SEIFA Index of EducationñOccupation), and a rurality index (Table 1).[6] The health needs index is currently under review, using data from later periods. Analysis for this review demonstrates that an additional factor should be introduced to the index: the percentage of the population that identifies as indigenous.

In 1996, additional factors were introduced to the overall RDF for the funding programs covering non-inpatient services to reflect the additional needs of the indigenous people and homeless people. The rationale for introducing these factors was to provide some capacity for strategies that targeted the poor health status of these groups.

Major cost factors that are taken into account include: the extent to which private sector services meet the local populationís needs; the additional costs of delivering services to dispersed rural or remote populations; the cost of interpreter services for non-English speakers; the impact of the role that principal referral hospitals play in terms of managing more severely-ill patients; teaching and research; and the effect of certain statewide services. The RDF also adjusts for the flows of patients between AHSs.

The output of the formula is a target share of resources for each AHS. Based on population projections, target shares can be developed for future years, and these targets have been used to guide the allocation of new funds across AHSs.

PROGRESS IN ACHIEVING EQUITY IN RESOURCE DISTRIBUTION

Various reports in NSW from the late 1980s noted the ëÖunacceptable disparities in the allocation of health resources in New South Walesí,[7] largely arising from the unresponsiveness of historical funding to changing population trends and health needs.[8,9] Similar findings had been found earlier in the United Kingdom, when in 1974 a deliberate strategy was adopted to reduce disparities ëÖin terms of the opportunity for access to health care of people at equal riskí. This strategy influenced thinking in NSW to consider similar issues.[10]

Since the adoption of the RDF approach in the late 1980s, considerable progress has been made in reducing the disparities in funding across NSW. In 1989-90, approximately 16.4 per cent of the health budget needed to be reallocated to achieve equity in funding.[8] By 1994-95, this figure was reduced to 9.6 per cent, and by 1998-99 it was 4.4 per cent.[1] With three-year growth funding announced by the NSW Minister for Health in 2000, further progress is being made towards fairer funding for the AHSs that will further reduce these disparities. While all AHSs have received growth in funding, a greater share is being directed towards historically under-funded population growth AHSs such as those in greater western Sydney, the Central Coast, and the North Coast of NSW. The aim is to bring relatively under-funded AHSs to within two per cent of their RDF target share of resources.

THE RDF'S ROLE IN REDUCING HEALTH INEQUALITIES

It should be acknowledged that achieving equity in access to health services will not necessarily address the underlying causes of health inequalities. There may be some indirect effects. For example an equitable distribution of government-funded services tends to ameliorate broader inequalities in the distribution of income and wealth.[11] Further, the health sector can play an important role in addressing geographical inequities in the distribution of employment opportunities, which is also an important influence on income and wealth distribution.

Achieving equity of access shapes the response of the health system to health inequalities as evidenced by variations in need across the population. In this respect, the RDF plays several important roles. First, equitable access may be required to ensure that once the illnesses associated with health inequalities emerge, disadvantaged populations have comparable access to effective services.

A second mechanism is through minimising the number of patients travelling long distances for routine hospital services which should be provided locally. The RDF helps achieve this by guiding a greater share of resources to develop new services in the AHSs that have historically been relatively under-serviced or have experienced rapid population growth.

In parallel with the RDF, the NSW Department of Health is implementing a system of budget holding, which will provide incentives and capacity for the AHSs to identify historical patient flows to hospitals that could be reversed through the build up of local services. While many patients travel out of an AHS for treatment for legitimate reasons-such as proximity of services to AHS boundaries, or for specialist services that are only available in a few locations-a proportion of patient flows reflects historical referral patterns to established services that are a significant distance from the patientís home.

An important question is whether the RDFís objectives ought to be expanded beyond equity of access. This issue was at the centre of debates in 1996 over whether additional weightings should be introduced for indigenous and homeless people. These changes were justified on the basis of the need to target resources at groups with significantly poorer health status. In effect, this is a subtle shift from the objective of achieving *equity in access* towards the objective of achieving more *equitable health outcomes* for these groups. A serious argument, currently under consideration, is whether the formula should be enhanced to ensure resources for health programs targeted at intervening in the processes that lead to health inequalities are appropriately distributed across AHSs, in order to reflect the underlying target groups for these programs. This development may only make marginal change to the target share for each AHS, but it may embrace a more important message.

LIMITATIONS

It is important to be clear that the RDF is only one policy lever for addressing the equity issue, and by itself is an insufficient mechanism. While the RDF aims to create the broad resource capacity for equity to be achieved within the health system, an essential ingredient in delivering on equity objectives is action at the local level within AHSs. These actions may be shaped by state-level policies, but ultimately local-level strategies for addressing unmet need, and targeting of populations with relative health disadvantages, are what matter. In this context, tools for local-level decision making and resource allocation are very important.

The RDF is deliberately neutral on the issue of efficiency, and achievement of equity objectives might be frustrated by inefficient services. Other policy mechanisms are used in NSW to deal with the efficiency objective, including episode funding and hospital-cost benchmarking.

Finally, the NSW public sector health system is only part of the broader health system. While some attempts are made to take account of other sectors (such as in adjustments for private hospital use) the distribution of resources under federal programs and private finance is also important to the achievement of equity.

CONCLUSION

When combined with other strategies, the RDF is a powerful tool for addressing equity objectives in NSW. The formula will continue to be refined so that AHSs with unique factors that adversely affect the health status of their populations receive funding to improve access and meet the health needs of the population. It is also important to improve our understanding of relative differences in health need at a more micro-level, and to assist area-level decision making by refining the model to identify needs at the smaller geographic level within AHSs. A question for the immediate future is whether to broaden the objectives for the formula to include achievement of equitable health outcomes.

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Table 1

TABLE 1

NSW HEALTH NEEDS INDEX BY AREA HEALTH SERVICE[6]

Health Area	SMR (90-92)	EDOCC (1991)	Rurality Index	Need Index
Northern Sydney	75.1	112.9	16.6	82.5
South Eastern Sydney	97.0	105.8	16.7	93.9
Wentworth	98.3	101.5	15.1	97.7
Western Sydney	103.3	100.0	16.1	99.4
Illawarra	98.8	96.5	14.6	100.2
South West Sydney	101.2	95.3	15.3	101.1
Central Coast	102.1	95.9	13.6	102.9
Central Sydney	115.4	102.1	17.0	102.9
Hunter	104.2	95.6	14.3	103.2
Northern Rivers	92.6	93.6	10.1	103.7
Mid North Coast	98.7	92.7	10.6	106.5
Southern	104.1	97.4	8.9	107.5
Greater Murray	106.1	96.4	8.8	108.6
Mid Western	111.1	95.9	8.6	110.8
New England	115.0	95.7	7.6	113.5
Macquarie	119.1	94.4	8.2	116.3
Far West*	147.1	89.8	1.6	167.7

* An additional loacing was applied to Far West Area Health Service to recognise its unique circumstances

Return to text

North Coast Area Health Service
NSW Health

Visiting Medical Officer Establishment

Former Northern Rivers Area Health Service Hospitals

SPECIALIST SURGICAL SERVICES

Sub-Speciality	Tweed Heads	Murwillumbah	Lismore	Grafton	Ballina	Byron Bay	Casino
Cardio-Thoracic (Consulting)	2						
ENT	1	1	2	1			(2)
Oral & Maxillo-Facial	1		1				
General Surgery	4	(4)	5	3	(3)	(1)	(1)
Ophthalmology	(2)	2	5	1			
Orthopaedics	4	(4)	3				(3)
Paediatric Surgery	1						
Urology	1		2		(2)		(1)
Vascular	1		2		(2)		

Note: ( ) indicates secondary appointments

SPECIALIST MEDICAL SERVICES

Sub-Speciality	Tweed Heads	Murwillumbah	Lismore	Grafton	Ballina
Emergency Medicine	To cover 24 hour x 7 day pw roster				
Cardiology	1	1	3		(3)
Dermatology			1		
Gastroenterology	1	(1)	4		
General Physician	5	(4)	2	4	
Intensivist	To cover 7 day pw roster		2		
Paediatrics	3	(2)	3		
Nephrology	2		2		
Nephrology - Consulting/ Dialysis Unit				(2)	(2)
Neurology - Consulting	1				
Rheumatologist			1		
Medical Oncologist	1				

Note: ( ) - indicates secondary appointments

ANAESTHETIC SERVICES

Sub-Speciality	Tweed Heads	Murwillumbah	Lismore	Grafton	Maclean
Specialist	see note 2		see note	2	
GP		2		2	1

Note:

1. Lismore includes appointment to Richmond Valley Surgical Services incorporating surgical services at Byron Bay, Casino, Ballina and Maclean Hospitals
2. Lismore / Richmond Valley establishment to cover approximately 40 sessions per week at Lismore Base Hospital and 17 per week at peripheral hospitals.
3. The Tweed Hospital establishment to cover approximately 30 sessions per week
4. Grafton appointment includes opportunity to provide services at Maclean

RADIOLOGY

Current establishment is 11 positions providing radiology services to hospitals in the Richmond and Clarence Valleys including: Byron Bay, Mullumbimby, Ballina, Lismore, Casino, Coraki, Nimbin, Kyogle, Bonalbo, Urbenville, Grafton, and Maclean. NCAHS will offer twelve-month appointments pending a decision to invite tenders for the

provision of radiology services across Richmond and Clarence Valleys.

SPECIALIST OBSTETRICS & GYNAECOLOGY

Speciality	Tweed Heads	Murwillumbah	Lismore	Grafton
O & G	4 + (3)	3	4	2
O & G Consultant (Oncology)			1	0

Note: ( ) – indicates secondary appointments

PSYCHIATRY

Speciality	Tweed Heads	Murwillumbah	Lismore	Grafton	Community – ACAT Team
Area Director			1		
Psychiatry - Adult	2	1 (consulting)	3		
Psychiatry – Child/ Adolescent	1			1	
Psychiatry - Dementia					1 (consulting)

GENERAL PRACTICE / DENTAL

Service	Tweed Heads	Murwillumbah	Lismore	Grafton	Area Dental Clinics
Emergency Medicine				4	
General Medicine	3 – see note		19	20	
General / Emergency Medicine		16			
Obstetrics	1	2 *			
Neo-natal Care		4 *			
Paediatrics		16 *		1	
Sexual Assault		2	7		
Proceduralist			1		
Drug & Alcohol - Riverlands			2		
Dental Service					5
Palliative Care	1 *				

* additional privileges for GPs providing ER/Med services

Tweed Heads GPs (3) to assist in Department of Medicine Roster

Service	Ballina	Bonalbo	Byron Bay	Casino	Coraki	Kyogle	Maclean	Mullumt
General / Emergency Medicine	22	1	15	13	2	5	7	15
Obstetrics				2 *				4 *
Sexual Assault	1		1					
Proceduralist				3 *			1	

* additional privileges for GPs providing ER & Med services

...ns nothing to a pensioner who pays ...ncome tax. Under the Government's ...posal, taxpayers will subsidise up to ... per cent or $2425 of each $5000 ...ation.

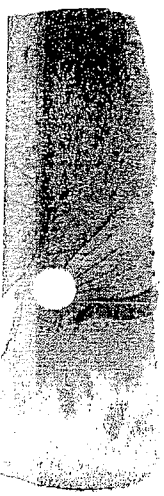
...dmittedly, taxes already subsidise ... parties, via public funding, but in a ...sparently democratic way that ...ts everybody's opinion equally.

...political finance scheme ... absence of public funding, in the "brown paper bag" days of Joh Bjelke-Petersen and during WA Inc.

Curiously, there is a split within Liberal ranks over funding. Former fundraiser Michael Yabsley has called for a ban on corporate and union donations, as happens in the US.

...system, but doesn't address ... in the form of the parties' thirst to spend big on campaigns. Britain, Canada and New Zealand all limit expenditure on electioneering. Why don't we?

Dr Graeme Orr is a senior lecturer at Griffith University's law school where he researches electoral law



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...is *The Courier-Mail*'s
... Her column appears
every Tuesday
...@qnp.newsltd.com.au

More bedside manner

There is no need for so many overseas-trained doctors to be working in Queensland argue **David Whish** and **Charles Elliott**

QUEENSLAND Health will tell you that there are not enough Australian doctors. There is a shortage – but scores of local specialists have left the public system, discouraged and disappointed with practising medicine "the Queensland Health Way".

The current Queensland Health policy is an outdated failure and other states in this country do it better. Change is needed.

Queensland – unlike all the other states – has a public system almost entirely separate from the private system. For years Queenslanders have been told about the marvels of their completely free public hospital system but this is the only state where a patient's GP is unable to care for them in a provincial public hospital.

Instead, when a public patient is admitted to a hospital their care is taken on by doctors employed by Queensland Health. Traditionally, these would be young Australian-trained doctors working under the supervision of more senior doctors for a few years before either going into general practice or specialist training programs.

Now many of the hospital doctors (especially in provincial Queensland) are overseas-trained, working full-time for Queensland Health. How can we prevent further tragedies in Queensland Health?

Private doctors who work in public hospitals sessionally (half or full days) are known as Visiting Medical Officers (VMOs). There is good evidence that Queensland Health has actively tried to reduce the number of VMOs working in the public hospital system.

These doctors expect the same standards of care for their public patients as they deliver to their private patients. They are, therefore, active arbiters of the standards of care in the public sector, often very vocally, to the dismay and dislike of the bureaucracy.

They also are productive, working at much the same pace as in a private hospital. This creates unwelcome costs for the administrators as patients are treated rather than deferred. The effect has been particularly severe in regional areas where there used to be strong working relationships between the local hospital and community doctors.

It is time to allow GPs back into Queensland provincial hospitals and to encourage and reward Australian-trained private specialists (VMOs) for public sessional work in these hospitals, rather than fill the positions with full-time, largely overseas-trained doctors.

This would allow Queensland public hospitals access to our highly skilled Australian medical workforce. Had this been the case in Bundaberg, Dr Jayant Patel may have had a much shorter surgical career, as his faults would have been evident to a body of Australian-trained doctors with the political clout to remove him or limit his practice.

The benefits to patients are huge. Continuity of care is assured, which is the best model of medical care. Standards of the private and public sectors are equalised, instead of having a two-tiered system. Access to high quality doctors is improved.

In other states, fee-for-service public hospital work is attractive to general practitioners in small towns thus providing continuity and incentives to a rural medical workforce. New South Wales has about 3000 VMOs in public hospitals, while Queensland had approximately 726 in 2002. Now, there are likely to be even fewer.

The money spent on overseas full-time doctors and thousands of non-productive health bureaucrats would be better spent on VMO positions for Australian-trained general practitioners and specialists paid fee-for-service or hourly rates commensurate with other states.

Imagine all our trained doctors looking after our provincial public patients.

The provincial patient deserves better, and this is the way to do it.

Dr David Whish practised as a provincial anaesthetist in NSW from 1988-1992 and Dr Charles Elliott was a rural general practitioner in Queensland from 1984-2004

COURIER MAIL PAGE 15
24/5/05

Fixing Medicare

Funding arrangements may be worsening Australia's shortage of health professionals, writes Sean Parnell.

HAVING his hypertension checked by a GP is a burden Steve Buckland would like to avoid.

It's not a burden to him, mind you. Buckland, the director-general of Queensland Health, believes GPs should delegate such tasks to free up the health system.

"When I go and get my hypertension checked, whilst I enjoy the conversation with my GP, who is a really lovely guy, it could be done by anybody," Buckland says. "Then once a year, or if my situation changes, there could be a referral system.

"That's not lessening the standard of care, but it's freeing up someone who's done 30 or 40 years of general practice to actually use their skills to manage those more complex cases."

Buckland, a registered specialist in occupational medicine, has worked in the public and private systems and "moonlighted" as a GP.

But since entering management in 1989, Buckland has come to realise that Medicare's "fee-for-service" structure – under which GPs are paid on the basis of the services they provide – "can be the natural enemy of the management of chronic disease".

Coupled with the increasing demand for GP services, Buckland believes fee-for-service creates a filter that has the potential to leave chronic illness unchecked until it becomes a greater problem for public hospitals.

Stephen Duckett, from La Trobe University, says an annual payment or an episodal payment would be a better incentive for GPs to take responsibility for patients with complex needs.

"The right way of paying for chronic care is not on a visit-by-visit basis," Professor Duckett says. But despite the obvious inequity of the Commonwealth paying the same Medicare rebate for a short consultation lasting five minutes as a longer session of up to 20 minutes, Rob Walters, chairman of the GP umbrella body Australian Divisions of General Practice, does not believe patients with chronic illness are being neglected.

WEEKEND AUSTRALIAN 19-20/3/05

with specialists in the private sector, with Queensland Health picking up the bill.

But other reforms are more controversial. Buckland takes offence at the "arrogance" of some doctors who refuse to accept nurse practitioners, currently being trialled across Queensland.

He rejects out of hand the criticism of Australian Medical Association Queensland president David Molloy, who describes the initiative as "dumbing down the system through task substitution".

"For a lot of the bread and butter, day-to-day stuff which is currently done by the medical profession – a highly-trained profession, it costs millions of dollars to train doctors and specialists, all paid for by taxpayers – then you've got to look and ask 'are they using the skills we need them to use?," Buckland says. "It's not about dumbing down. It's about making good use of your resources."

The nurse practioners involved in the trial, which was recently extended to more sites, are prescribing and supplying medicine, ordering blood tests and x-rays, admitting and discharging patients and making referrals.

Ultimately, they might even act in the place of anaesthetists for some procedures. If that occurrs, Buckland believes they should be known as clinical sedationists to reassure patients and recognise their standing in the medical community.

There are strong indications that Queensland Health, now it has completed its 10-year, $2.8 billion dollar rebuilding program, will embark on more workforce reforms.

Molloy believes Queensland Health is "looking for simplistic, quick fixes" instead of employing and empowering more doctors.

"What they're doing is taking some jobs away from people and moving them to the next skills level, moving some doctors' work down to nurses, and moving some nurses' work down to someone else," he says. "This was tried in the United States and found not to be very successful."

Molloy says task substitution can be effective in a close-working team, but many patients require a doctor who knows the full breadth of their condition and treatment.

"You tend to have more errors made or more problems because people aren't trained for that, they're only trained for a few tasks," he says.

But Buckland believes he has a responsibility to help public hospitals cross the "chasm" between rich and poor to focus on the most disadvantaged in the health system.

"The chasm, even if its not getting any worse, is still unacceptably wide," he says.

"Doctors are used to subsidising those that need it, we don't get

get worried if we're expected to subsidise everyone."

Walters supports the Commonwealth's ongoing work on the fee-for-service model and believes moving from a four-tier to a seven-tier system has the potential to provide rebates that recognise patients' varying needs. Under the present structure Medicare pays patients a rebate of $14.10 for a simple consultation of usually less than five minutes, or $30.85 for a more complicated one of up to 20 minutes.

Longer consultations attract higher rebates – $58.55 for up to 40 minutes, and $86.20 if it's longer than that.

Because this creates a financial incentive for GPs to rush patients through quickly, there's a proposal before the government to break this structure down into narrower "slices".

Buckland, however, fears that without better health prevention and management of chronic disease, the public hospitals become "the recipient of the failures of the primary healthcare system". "We know the burden of chronic disease is overwhelming, and the thing that frustrates me in fee-for-service medicine, and why private health care is in trouble in this country, is the cohort of people who need access is this big," he says, holding his arms out to illustrate his point. He brings his hands back together: "And you're trying to push it through a filter called general practice which is this big and getting smaller."

Apart from paying GPs more to deal with complex cases, Buckland believes the filter could be circumvented if GPs delegated more tasks to nurses and other health professionals.

Walters believes general practice nurses will be "increasingly important" in the years to come but says they, at the moment at least, are not always affordable.

He is lobbying Federal Health Minister Tony Abbott to loosen the restrictions on what can be charged for a nurse to help carry the burden of general practice. Buckland, meanwhile, is introducing reforms designed to open up access to Queensland public hospitals. With Queensland's booming, and ageing, population, the demand for public healthcare and the shortage of health professionals is a challenge.

One of Buckland's first tasks as director-general was to take the Royal College of Pathologists of Australia to the Australian Competition and Consumer Commission in a dispute over training and the use of overseas-trained pathologists.

"The fact that we muscled up is probably as effective as the outcome of the investigation," he says, insisting Queensland Health now has a good working relationship with the specialist colleges.

Indeed, Buckland was recently praised by the Royal Australasian College of Surgeons for brokering a deal to have registrars train

"And all the arguments about what particular practitioners historically have a right to do is a nice debate, but it doesn't help these people one iota. It doesn't change one health outcome for them.

"There's still a large number of people for whom, because of the huge medical workforce shortages, access is a major issue."

Sean Parnell, The Australian, March 19, 2005.

More Stories in this Section

- Medic refuse to work weekends
- Pay rises for aged care nurses
- A job that has travel and action
- Muscle in on massage career
- Blazing a trail in hospital management
- Medic was generous to the last
- Manners part of the drill
- Patients to stay in 'recovery centres'
- New boss to cure e-health
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APPENDIX D 6

NORTHERN RIVERS AREA HEALTH SERVICE
Lismore Base Hospital Uralba Street Lismore

All correspondence to: PO Box 419 LISMORE NSW 2480 Tel: (02) 6621 8000 Fax: (02) 6621 7088
Clinical & Allied Health Direct Line 02 66 202354

PG.cr
Ref: 99-025

24 August 1999

COPY

The Medical Superintendent
Royal Brisbane Hospital
Herston Road,
HERSTON QLD 4006

Dear Doctor

Over the past eighteen months some difficulties have arisen with neurosurgical transfers from the Northern Rivers to Brisbane Neurosurgical Centres. These problems can be broadly divided into two categories.

Firstly, who should be rung prior to a neurosurgical transfer? Usually we would fully investigate the patient and do resuscitative surgery (eg a laparotomy) prior to arranging transfer. It appears that the consent of the Intensive Care, Neurosurgical and General Surgical staff all are required prior to transfer. Is this correct and if so can this process be streamlined?

Secondly, there is some confusion locally as to who is appropriate for transfer. In Sydney, where most of us received our critical care training, a multiply injured patient with a neurological component that is anything but trivial would be normally be transferred to a hospital with the neurosurgical staff on site. There is a perception that Brisbane centres are less keen on transfer of such patients unless they need immediate intervention or surgery. Is this correct?

Would you mind forwarding copies of this letter to your Neurosurgical, Intensive Care and General Surgical Departments and invite their comment. I look forward to your reply.

Yours sincerely

Peter Cook MBBS FFICANZCA

Peter Cook
Director of Intensive Care

cc Retrieval Committee, NSW Dept of Health

QUEENSLAND HEALTH

QUEENSLAND GOVERNMENT

ROYAL BRISBANE HOSPITAL
and District Health Service
Herston Road,
Brisbane Q 4029
Telephone (07) 3253 8111
Facsimile (07) 3257 1765

ENQUIRIES: Medical Services
PHONE: 3253 7426
FAX: 3253 7800
OUR REF: RA:mc
YOUR REF:

Richard Ashby@health.qld.gov.au

17 September 1999

Dr Peter Cook
Director of Intensive Care
PO Box 419
LISMORE 2480

Dear Dr Cook,

Re: Neurosurgical Transfers
Your Reference: 99-025

Your letter of the 24 August 1999 in relation to neurosurgical transfers was received on the 2 September 1999. I apologise for the delay in responding. We had understood that there was to be a meeting between the Director of the Northern Rivers Area Health Service and our Zonal Manager to discuss these issues and we had felt it was best to defer correspondence until after that meeting. However, as that meeting has not yet occurred I would advise as follows:

- If you have a ventilated neurosurgical patient you should contact the Intensive Care Facility at Royal Brisbane Hospital. The critical care of the patient can be discussed and if your surgeons wish to have a neurosurgical opinion by telephone this will be arranged. In the context of multi trauma, other relevant specialists such as orthopaedic surgeons and general surgeons will also be contacted by the Intensive Care Facility and it is possible that some of these specialists may wish to contact you about specific issues.

- Whether a multiply injured patient with a neurological component requires transfer would depend predominantly on the GCS and the CT scan findings. It may not be necessary for a patient with a minor or moderate head injury and no CT findings to be transferred for neurosurgical care. These matters may be best dealt with on a case by case basis.

You should be aware that we are proposing to hold discussions with your administration as to whether any patients other than those with time critical, life threatening illness should be transferred to our hospital. We have been advised that our hospital is to rapidly reduce its scope to focus predominantly on the population of the Queensland Health Central Zone. Wherever possible we have been advised to reverse the flow of patients from other zones and regions as part of demand management in the context of reduced activity and budget levels. You may be aware from media reports that RBH is currently closing some 70 inpatient beds, two operating rooms, 40 outpatient sessions per week and four intensive care beds.

Therefore, unless other arrangements are negotiated in the future, critical care patients who do not require life saving surgical intervention should indeed be transferred to tertiary health services in New South Wales. Where patients require life saving surgery within two to three hours which is not available in Lismore we will consider these transfers on a case by case basis.

In summary, the Queensland Government has required Royal Brisbane Hospital to significantly downsize, including the elimination of unfunded activity. This includes, inter alia, a twenty percent reduction in critical care beds, operating room capacity, surgical services and medical staff infrastructure in anaesthesia and intensive care. We have been instructed to reverse the flow of patients from other zones and regions where those centres are funded to provide secondary and tertiary services to their respective populations. Unless other arrangements are made in the future, wherever possible, you should refer your critical care patients to the tertiary hospitals in New South Wales that service the Northern Rivers Area Health Service. Where you have a patient with a life threatening problem requiring intervention within two to three hours and where a delay of five to six hours in transferring to Sydney would be likely to create a significant risk of increased morbidity or mortality you may contact our Intensive Care Facility who are authorised to accept the inter-hospital transfer and who can initiate necessary diagnostic, surgical, and retrieval responses at this end.

I am sure that you would understand that these changed circumstances have not been initiated by the clinicians in our Intensive Care Facility who wish to ensure continuation of their collegial relations with you.

Yours sincerely,

R.D. Ashby

Dr Richard Ashby
Acting Executive Director of Medical Services

NORTHERN RIVERS HEALTH SERVICE
Lismore Base Hospital Uralba Street Lismore
All correspondence to: PO Box 419 LISMORE NSW 2480 Tel: (02) 6620 2124 Fax: (02) 6621 7088
Dr Peter D. Cook
Director of Intensive Care
(Page 016 633222)

20 October 1999

Mr John Abernethy
NSW Senior Deputy State Coroner
44-46 Paramatta Road
GLEBE NSW 2037

Dear Mr Abernethy

Following our discussion today I am writing to inform you of my concerns about transfer of critically ill patients from the Northern Rivers to tertiary referral hospitals. The enclosed correspondence is really self-explanatory.

Two deaths have been associated with these difficulties. I am not saying that these outcomes would have been different had these difficulties not arisen, however I believe that will occur in the future if this is not promptly addressed. I believe these deaths bring these circumstances under your review. I hope you can help.

My letter of 24th August to Royal Brisbane was by way of initial inquiry when I heard there was a change in their approach. Richard Ashby's reply of 17th September was quite specific. I have no doubt this contravenes the Medicare agreement. I know Richard. He is an emergency physician of some standing who is new to the acting position of Executive Director of Medical Services. I didn't want him to be "hung out to dry" for following what may have been an unstated policy decision so I sent his reply back to Dr Rob Stable, Director General QLD Heath to make sure he was aware of what we were being told. That letter was acknowledged but I have yet to receive a reply.

Why should we send to Brisbane? Royal Brisbane is 84 nautical miles from Lismore by helicopter. John Hunter is 270 nautical miles to our south with one or two refueling stops en route depending on weather. Air ambulance from Sydney has a flying time of 105 minutes each way assuming a plane and retrieval team was immediately available. In a clinical sense South East Queensland is our only realistic option for most of these patients.

Brisbane has three major teaching hospitals. Royal Brisbane specializes in neurosurgery and burns. Princess Alexandra specializes in spines and liver surgery and Prince Charles has special expertise in cardiothoracic surgery. For this as well as issues of bed

availability I believe it is necessary to be able to access all three of these facilities. The Gold Coast Hospital is smaller in scope and often has no intensive care beds available. My letter of the 24th August was also sent to the Medical Superintendent at Princess Alexandra Hospital. Its receipt has been acknowledged but a reply has not been received despite my follow up enquiries.

Why does the coroner have to get involved? The letter from Richard Ashby has been in the possession of the Northern Rivers Health Service for over two weeks yet I am not aware of any action and the situation is unchanged. It is a bad time for administration here with enormous public and political pressure (of which this letter is not part). While they are severely scaling back services and copping flack for this, an issue like patient transfers may not get addressed as rapidly as it should. I believe an interest from the coroner is appropriate and is likely to facilitate a resolution on both sides of the border.

The two patients who died and whose deaths are subject to review by the coroner are P367 and P368. P367's transfer problems are delineated in the enclosed letter from Dr David Thomas. P368 was an 84 year old passenger involved in a motor vehicle crash on 1/10/99. He sustained bilateral fractured femurs and a chest injury. At around the time of surgical fixation he sustained a myocardial infarction. Subsequently he was extubated on 6/10/99. Post extubation his level of consciousness decreased and a CT scan showed a right frontoparietal chronic subdural haematoma measuring 9cms x 6cms x 12mm. On discussion with Dr Frank Tomlinson neurosurgeon at Royal Brisbane he suggested drainage under local anaesthesia which I considered the best option. He indicated that he had been advised not to accept transfers from NSW without approval of the Medical Superintendent. I raised the ideal of transfer to Sydney with P368's two sisters and they were adamant that that would be against P368's wishes. Therefore he was managed conservatively and he died on 13/10/99.

I'm not sure that either patient would have had a different outcome without these added problems. It is possible that this may be different for the next patient affected.

Thank you for your assistance in fixing this situation.

Yours Sincerely

Peter Cook

per

Dr Peter Cook
Director of Intensive Care
Lismore Base Hosp
Uralba St.
Lismore 2480

Lismore 8 November, 1999.

The Hon. Craig Knowles,
Minister for Health.
Level 33,
Governor Macquarie Tower,
1 Farrer Place,
SYDNEY. NSW. SMS.

Dear Minister,

I am forwarding to you for the consideration of yourself and your officers, a communication recently received from a Dr. Peter Cook, Northern Rivers Area Health Service. Dr. Cook has also enclosed copies of correspondence between himself and various Queensland entities such as Royal Brisbane Hospital and Queensland Health Department. The letter refers to the situation where certain critically ill patients will not be treated in Queensland hospitals, requiring a transfer instead to Sydney, and a consequent delay in continuing hospital treatment. The letter is generally self-explanatory.

The issues raised are of some relevance to Coroners as the issue of "care and treatment" may go the actual manner of death, a statutory issue which must be addressed by the Coroner.

I would simply ask that your officers consider the issues raised by Dr. Cook, and if appropriate, raise them with your Queensland counterpart. It would seem to me that a mere State boundary ought not in principal, hinder the treatment of the critically ill whether their treatment ends in a death to be reported to the Coroner, or otherwise.

I would appreciate your reply in due course.

Yours sincerely,

(John Abernethy)
NSW Senior Deputy State Coroner,
Glebe. NSW.

Curriculum Vitae

Dr. Peter D. Cook

Personal Profile

Name:	Peter Dalton Cook
Date of Birth:	12th May 1959
Address:	12 Garema Street INDOOROOPILLY Qld 4068 Australia
Telephone:	Mobile: 0414 687906 Pager: 1300 555 555 #78800
General Health:	Excellent
Interests:	Surfing, Rugby, Gym, Cricket

Military Career

Wing Commander
Royal Australian Air Force Specialist Reserve

Awarded Australian Active Service Medal 1999

Professional Qualifications

1982	Bachelor of Medicine Bachelor of Surgery *The University of Queensland, Brisbane, Qld*
1992	Fellow of the Faculty of Anaesthetists *Royal Australian College of Surgeons*
1992	Fellow of the Australian and New Zealand College of Anaesthetists
1993	Fellow of the Faculty of Intensive Care, Australian and New Zealand College of Anaesthetists
2002	Fellow of the Joint Faculty of Intensive Care Medicine

Postgraduate Education Highlights

1983	Internship, Royal Brisbane Hospital
1987-90	Registrar in Anaesthesia, Royal Brisbane Hospital
1986	Primary Fellowship Examination of the Australian and New Zealand College of Anaesthetists
1990	Final Fellowship of the Australian and New Zealand College of Anaesthetists
1991	Senior Registrar in Intensive Care, St. Vincent's Hospital, Sydney, New South Wales
1991	Final Fellowship Examination of the Faculty of Intensive Care, Australian and New Zealand College of Anaesthetists
1992-93	Clinical Fellowship in Surgical Critical Care, University of Miami, Jackson Memorial Medical Centre, Miami, Florida, USA
1992-96	Early Management of Severe Trauma Course, Royal Australiasian College of Surgeons
1998-99	Assistant Professor in Anaesthesia and Intensive Care, University of Iowa Hospital and Clinics, Iowa City, Iowa, USA

1999-2001 Director of Intensive Care Lismore Base Hospital, Lismore, NSW

2001-Present- Complex-Wide Director of Adult Critical Care Services Mater Health Services, Brisbane

Professional Affiliations

Queensland Medical Board

New South Wales Medical Board

Australian and New Zealand College of Anaesthetists

Joint Faculty of Intensive Care Medicine

Australian and New Zealand Intensive Care Society

Australian Society of Anaesthetists

Licensee, Iowa State Board of Medical Examiners

Publications

Cook P.D., Callanan V.I., "Percutaneous Tracheostomy-technique and experience", *Anaesthesia and Intensive Care*. Nov. 1989.

Cook P.D., Pearson, M.M., "Central Queensland Retrieval Service", *Anaesthesia and Intensive Care*, Vol 19, no 1, Feb. 1991.

Cook P.D., "The Central Queensland Medical Retrieval Service-Is it ideal?" *Proceedings of the Division of Surgery,* Vol 5, 1989 pp 28-30.

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Other Acknowledge assistance with preparation "Cardiopulmonary resuscitation", Australian resuscitation Council 1988.

Career History

1984	Intern, Royal Brisbane Hospital
1984-85	Medical Superintendent, Baralaba and Woorabinda Hospitals, Queensland
1986	Principal House Officer in Anaesthesia and Internal Medicine, Redcliffe Hospital, Queensland
1987-88	Registrar in Anaesthesia, Royal Brisbane Hospital, Queensland
1987-89	Registrar in Anaesthesia, Townsville General Hospital, Queensland
1990	Registrar in Anaesthesia, Prince Charles Hospital (3 months): Royal Children's Hospital and Royal Brisbane Hospital (3 months)
1991	Registrar in Intensive Care, St Vincent's Hospital, Sydney, NSW
1992	Locum Director of Intensive Care, Lismore Base Hospital, NSW (6 months)
1992-93	Clinical Fellow in Surgical Critical Care, University of Miami, Jackson Memorial Medical Centre, Miami, Florida USA
1993-94	VMO Intensivist/Anaesthetist, Albury Base Hospital, Albury, NSW
1994-99	VMO Intensivist/Anaesthetist, Lismore Base Hospital, Lismore, NSW
1999 (Jan-June)	Assistant Professor in Anaesthesia and Intensive Care University of Iowa Hospital and Clinics, Iowa City, ;Iowa, USA
1999-2001	Director of Intensive Care, Lismore Base Hospital
2001-Present	Complex-Wide Director of Adult Critical Care Services, Mater Health Services, Brisbane