Can the VASM audit improve patient outcomes? - A regional perspective.

Wednesday, 5th September 2018
Auditorium, Latrobe Regional Hospital
10 Village Avenue, Traralgon West, Victoria

VASM
Victorian Audit of Surgical Mortality

LRH
Latrobe Regional Hospital

SCV
Safer Care Victoria

VICTORIA
State Government

ROYAL AUSTRALASIAN COLLEGE OF SURGEONS

‘A regional perspective,

to improve patient outcomes’.

Mr Peter F. Burke.
Senior Consultant General Surgeon: LRH

What is its role?

***VASM involves the clinical review of all cases,**

where patients have died while under the care of a surgeon.

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where patients have died while under the care of a surgeon.

***Issues in 29% cases: Minor 17% / Areas of concern 8% / 'Adverse event' 4.2%**

*VASM involves the clinical review of all cases,

where patients have died while under the care of a surgeon.

*Issues in 29% cases: Minor 17% / Areas of concern 8% / 'Adverse event' 4.2%

***Assessors identified more clinical management issues than the treating surgeons!**


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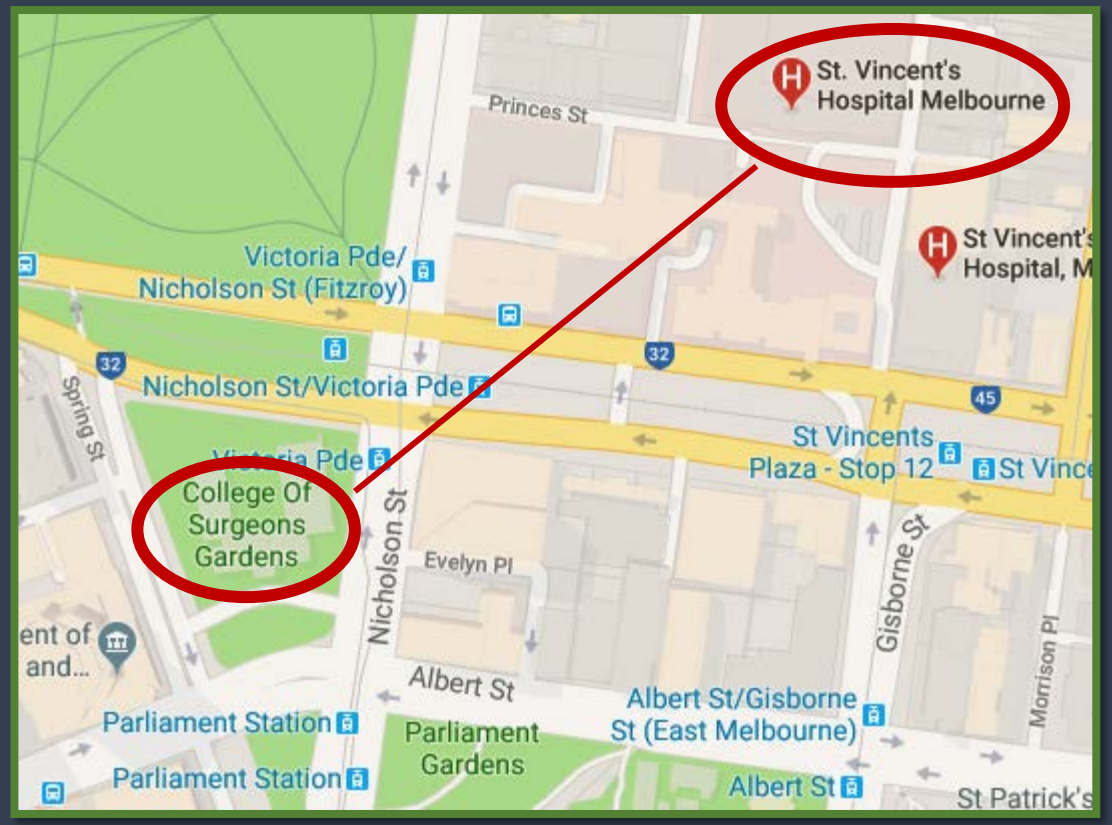
Free Seminar,
Wednesday, 5th September 2018
Auditorium, Latrobe Regional Hospital

What is an audit?

- **From Latin, '*auditus': hearing/listening.***
- **Today, we are in an 'auditorium'.**
- **In Court, judges 'hear' a case.**
- **Hence, an audit is an official/searching examination of accounts.**
- **A 'hearing' of facts.**

1970-1986.


St. Vincent's Hospital Melbourne
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Victoria Pde/ Nicholson St (Fitzroy)
Nicholson St/Victoria Pde
Spring St
College Of Surgeons Gardens
Nicholson St
Evelyn Pl
Albert St
Parliament Station
Parliament Station
Parliament Gardens
Albert St/Gisborne St (East Melbourne)
Albert St
Gisborne St
Morrison Pl
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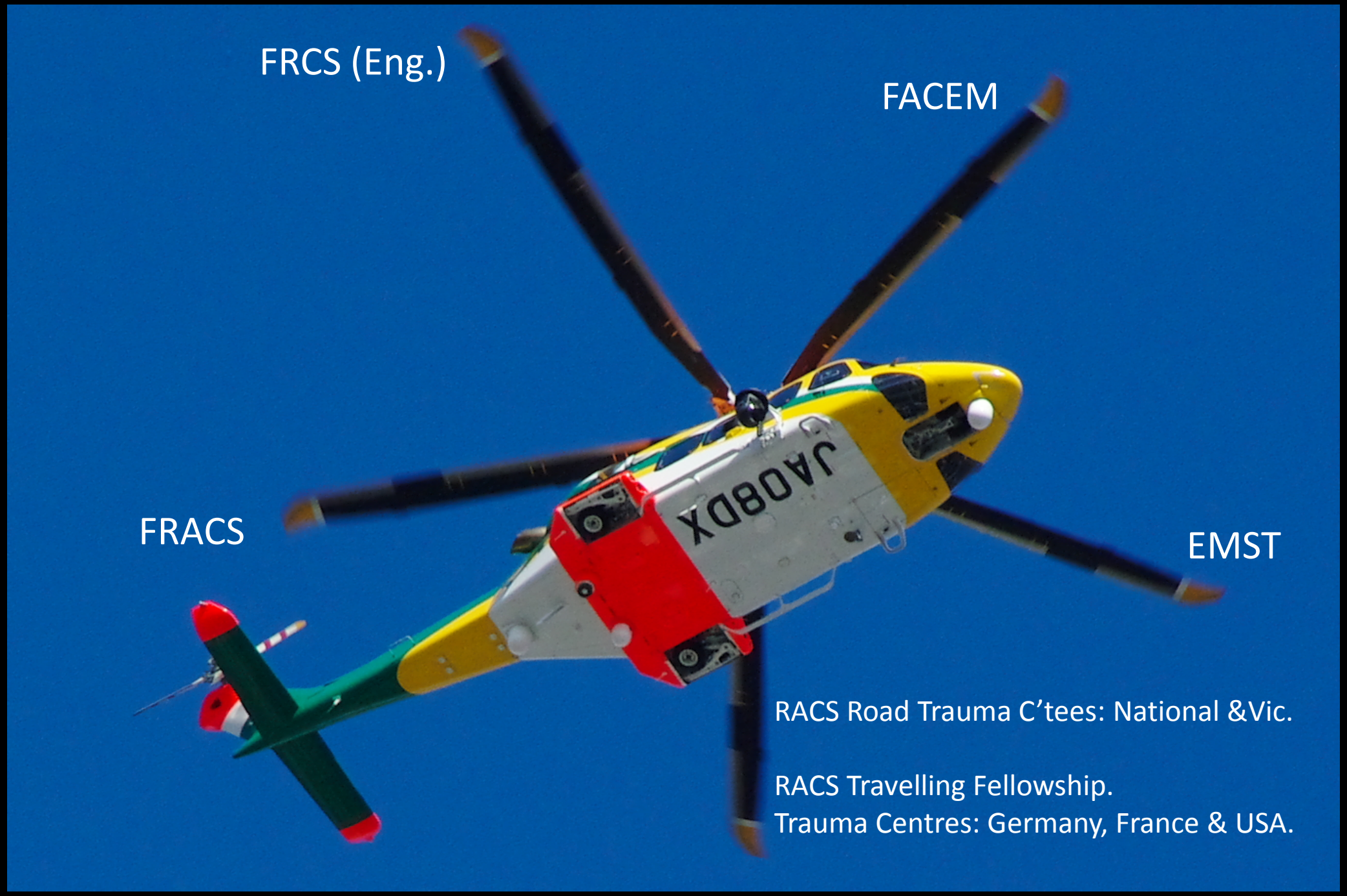
St Patrick's


ST. VINCENT'S HOSPITAL
Name:
MR. P.F. BURKE
Department:
MEDICAL


FRCS (Eng.)
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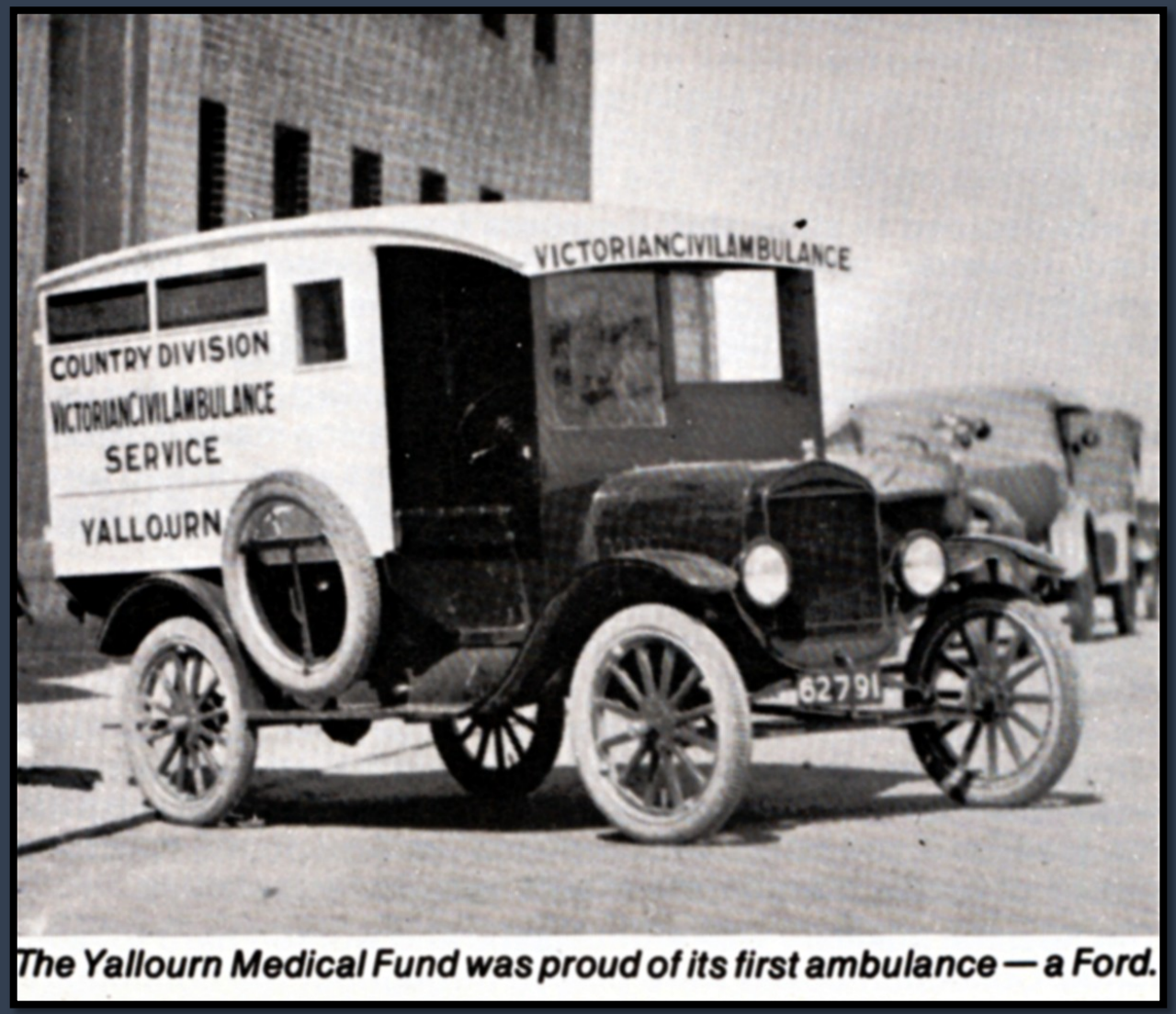
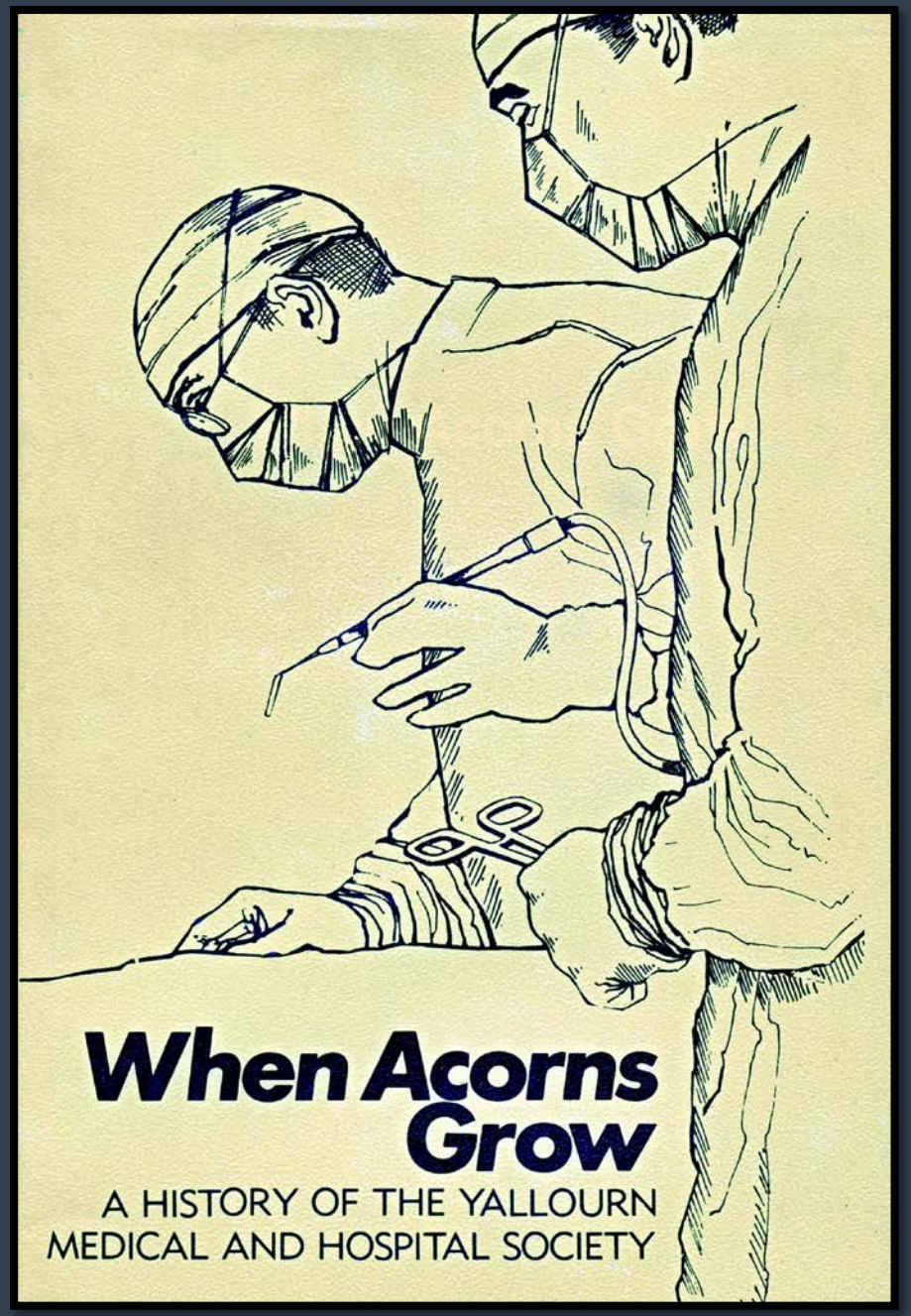
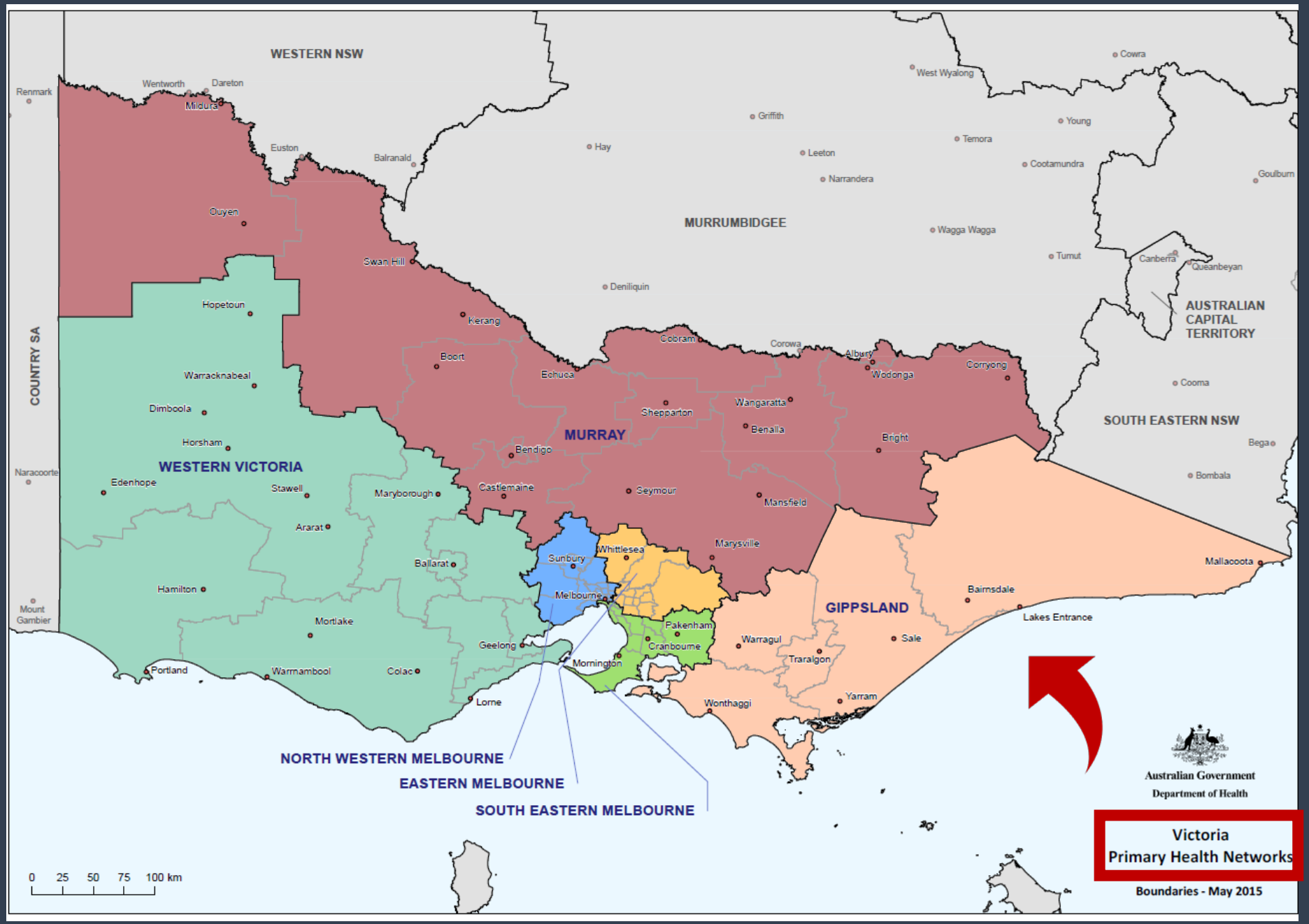
RACS Road Trauma C’tees: National &Vic.
RACS Travelling Fellowship.
Trauma Centres: Germany, France & USA.

***1987**, the move to the Latrobe Valley.*



The Yallourn Medical Fund was proud of its first ambulance — a Ford.

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AUSTRALIAN CAPITAL TERRITORY
SOUTH EASTERN NSW
COUNTRY SA
WESTERN VICTORIA
MURRAY
GIPPSLAND
NORTH WESTERN MELBOURNE
EASTERN MELBOURNE
SOUTH EASTERN MELBOURNE
Renmark
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Goulburn
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Bairnsdale
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Lakes Entrance
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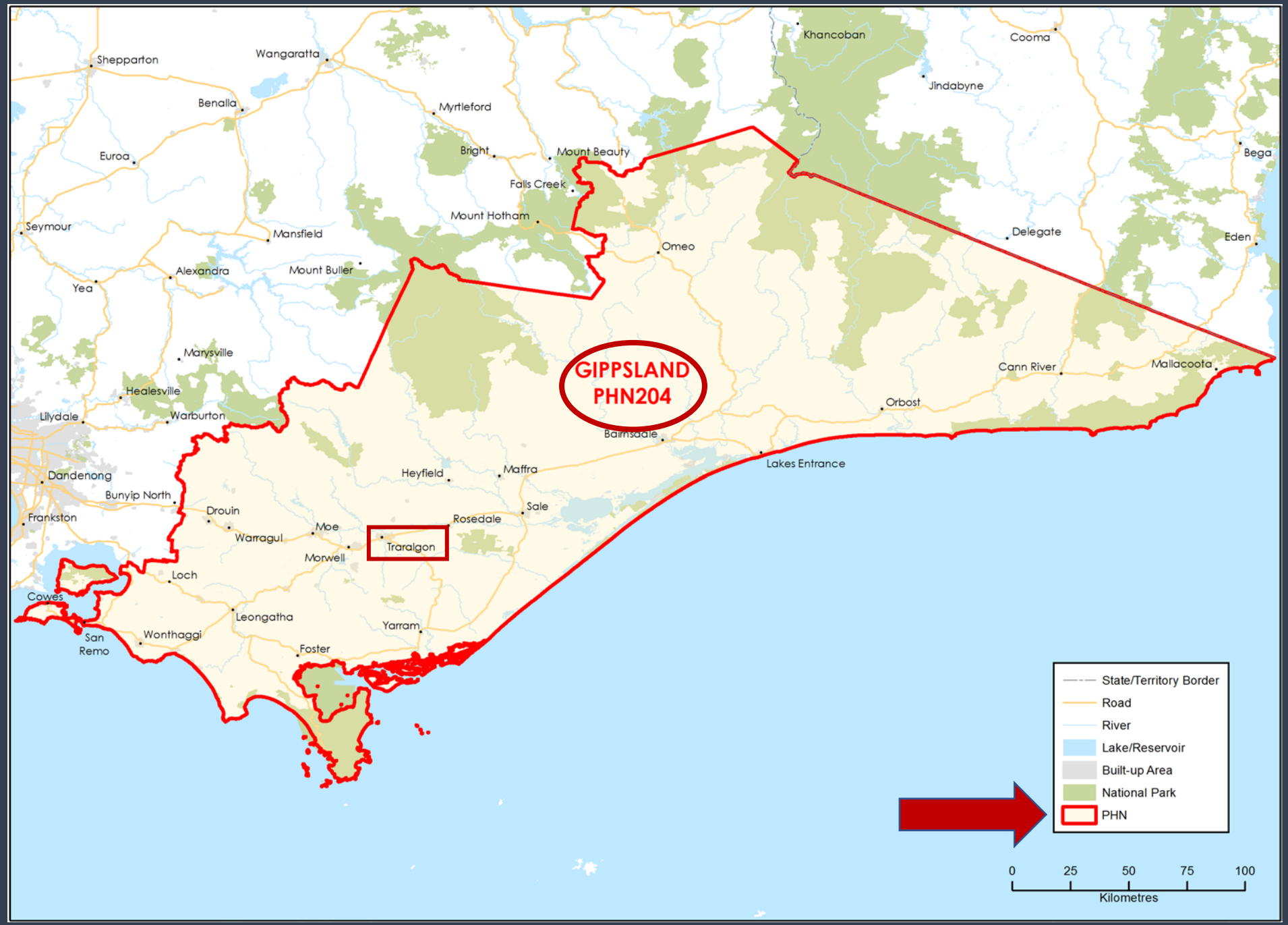
Australian Government
Department of Health
Victoria
Primary Health Networks
Boundaries - May 2015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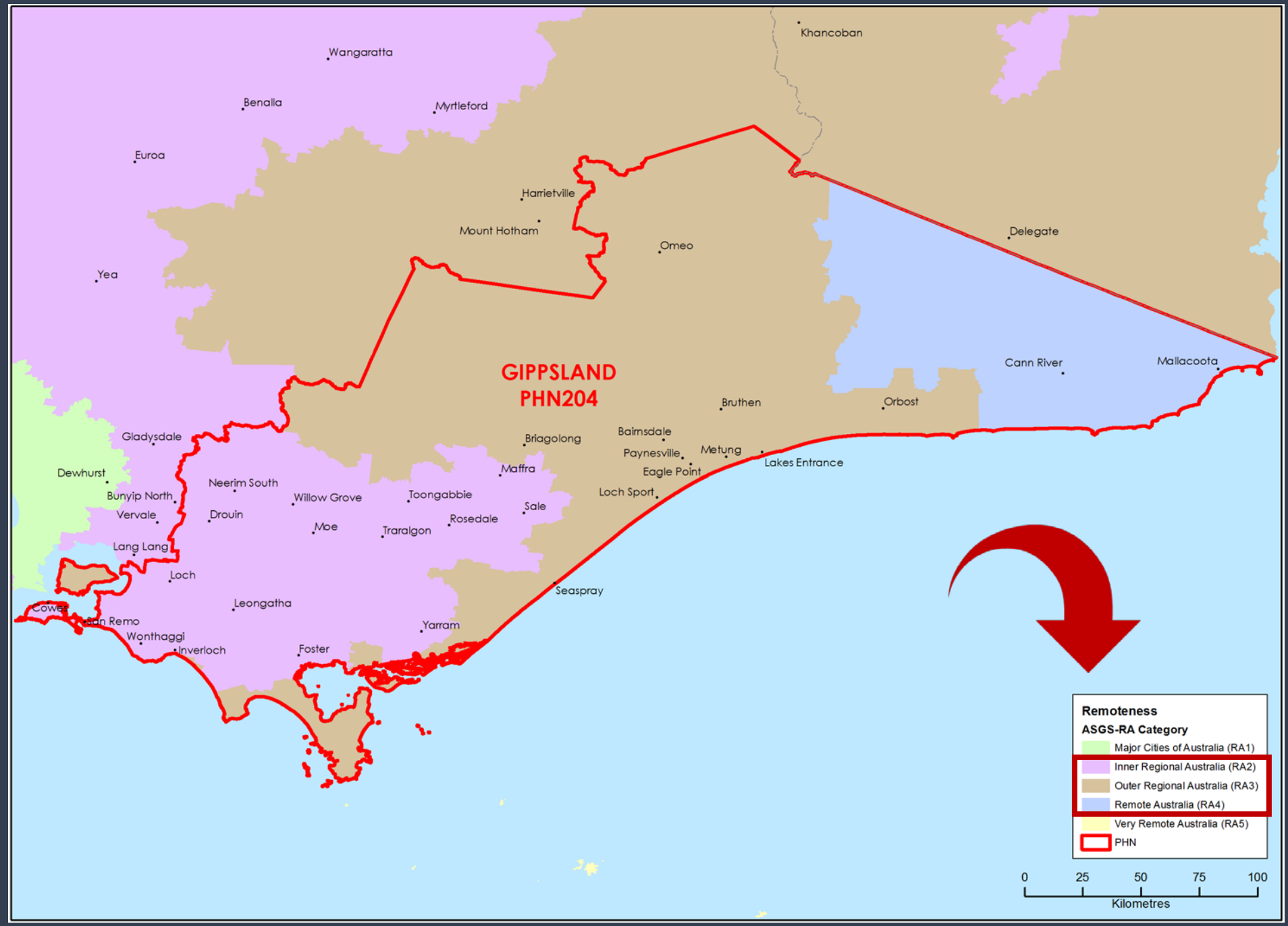
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San Remo
Yarram
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Remoteness
ASGS-RA Category
Major Cities of Australia (RA1)
Inner Regional Australia (RA2)
Outer Regional Australia (RA3)
Remote Australia (RA4)
Very Remote Australia (RA5)
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July 18, 2018.

Truck accident.

ABC NEWS LOCATION: Moe South, Vic Change

Just In Politics World Business Sport Science Health Arts Analysis Fa

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Truck crashes over bridge, falls 20 metres into South Gippsland river

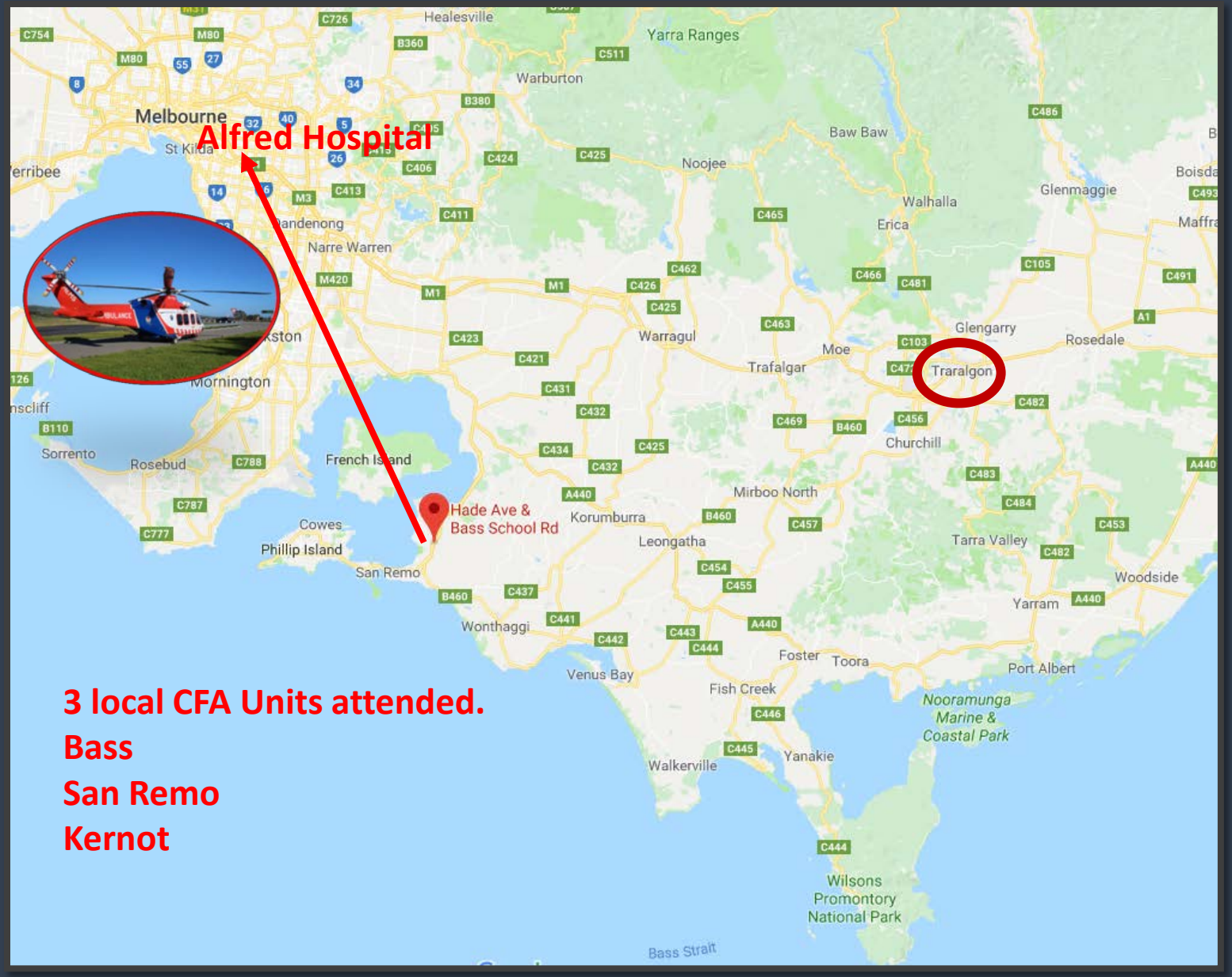
Updated 7 minutes ago

PHOTO: The truck driver is in a critical condition. (ABC News)

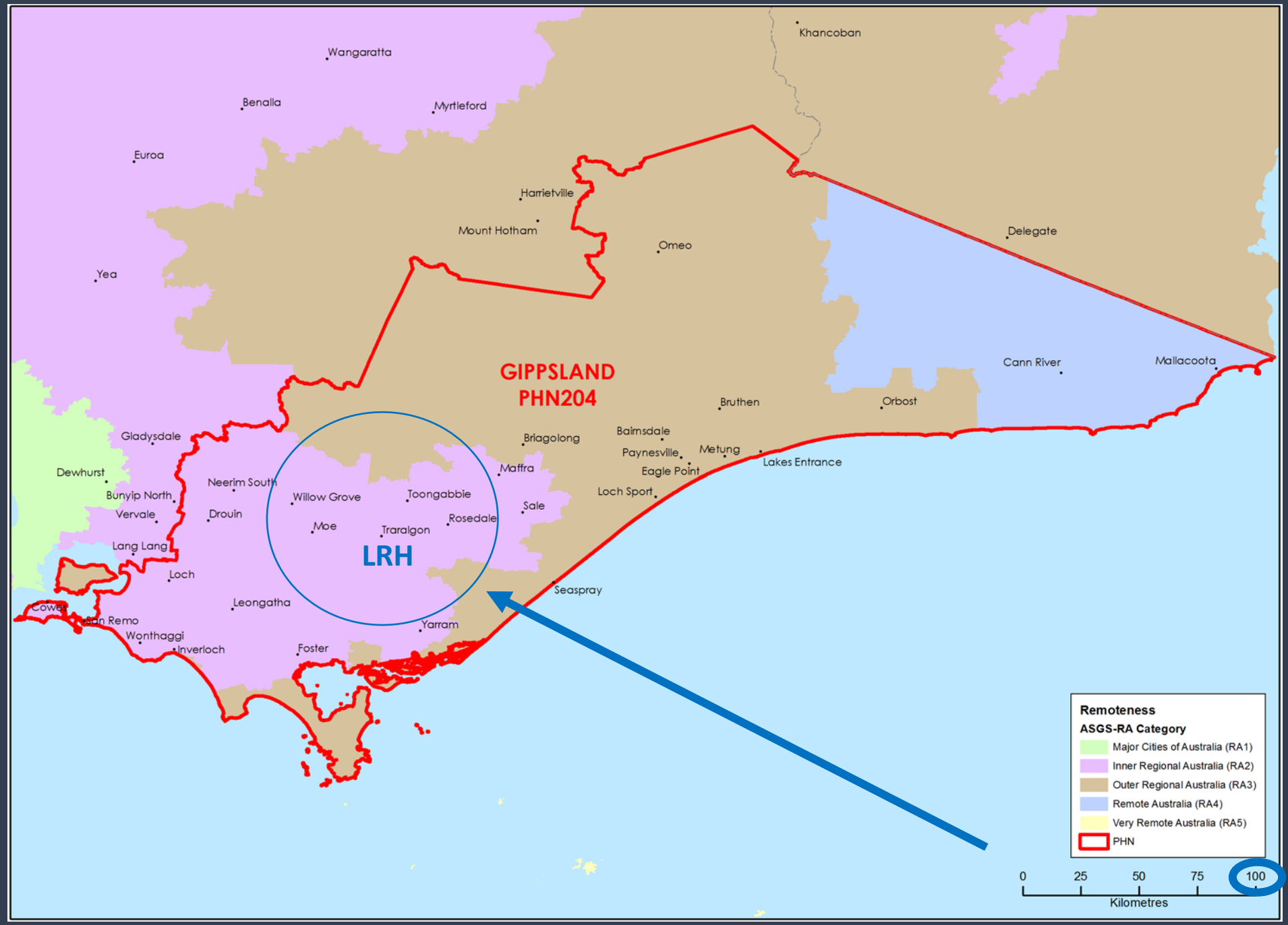
A man is in a critical condition after his truck crashed over a bridge on a highway in Victoria's south-east and fell 20 metres into a river.

July 18, 2018.

Truck accident.




The Tyranny of
Distance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Speed: 310km/h. Range: 1,000km. Endurance: 5h.

AW139

SIMPLY NO RIVALS

THE BENCHMARK FOR EMERGENCY RESPONSE

Designed specifically to meet the multi-mission demands of a new world, the AW139, a member of the AgustaWestland Family, surpasses all other intermediate twin-engine helicopters in capability, speed, range and versatility.

The AW139 can be equipped with either a dedicated EMS interior or with quick change self contained units and MEDEVAC equipment for maximum flexibility. Furthermore the avionic system reduces pilot workload, allowing the crew to concentrate on EMS operations.

VASM Executive Summary

Audited deaths (1 July 2012 to 31 June 2017) (n= 5,348)

Demographics

Age

Age	1 day to 104 years
Mean age	73 years
Median (IQR)	78 (66-86) years

Gender

Male	55.6% (n=2,973)
Female	44.4% (n=2,375)

* Involved in 23% of total cases.

Trauma

Occurred in 1,224 cases.

Fall at home	39.5 %	(n=483)	**Other falls**	8.9%	(n=109)
Fall in a care facility	32.2%	(n=394)	**Road accident**	11.0%	(n=135)
Fall in hospital	5.8%	(n=71)	**Violence**	2.6%	(n=32)

5,348 VASM cases. 1 July 2012 -30 June 2017.

Comorbidities

Yes	90.7%	(n=4,849)
No	9.0%	(n=482)
Unknown	0.3%	(n=17)

Total comorbid factors identified 14,703

Cardiovascular	22.2%	(n=3,271)	**Advanced malignancy**	6.3%	(n=931)
Respiratory	11.5%	(n=1,692)	**Diabetes**	6.6%	(n=974)
Renal	9.7%	(n=1,427)	**Obesity**	3.5%	(n=521)
Hepatic	2.5%	(n=367)	**Age**	19.2%	(n=2,820)
Neurological/psychiatric	6.5%	(n=961)	**Other**	11.8%	(n=1,739)

Risk

Admission status

Elective	17.8%	(n=942)
Emergency	82.2%	(n=4,361)

Transfers

Patient transfer	20.6%	(n=1,104)
Transfer delays	9.4%	(n=104)

Wednesday 30 May 2018

Victoria continues to be one of the safest places in the country to have surgery with continuing low death rates, according to the latest Victorian Audit of Surgical Mortality (VASM) report.

In the past year, 805 clinical reviews of patients who died whilst under the care of a surgeon.

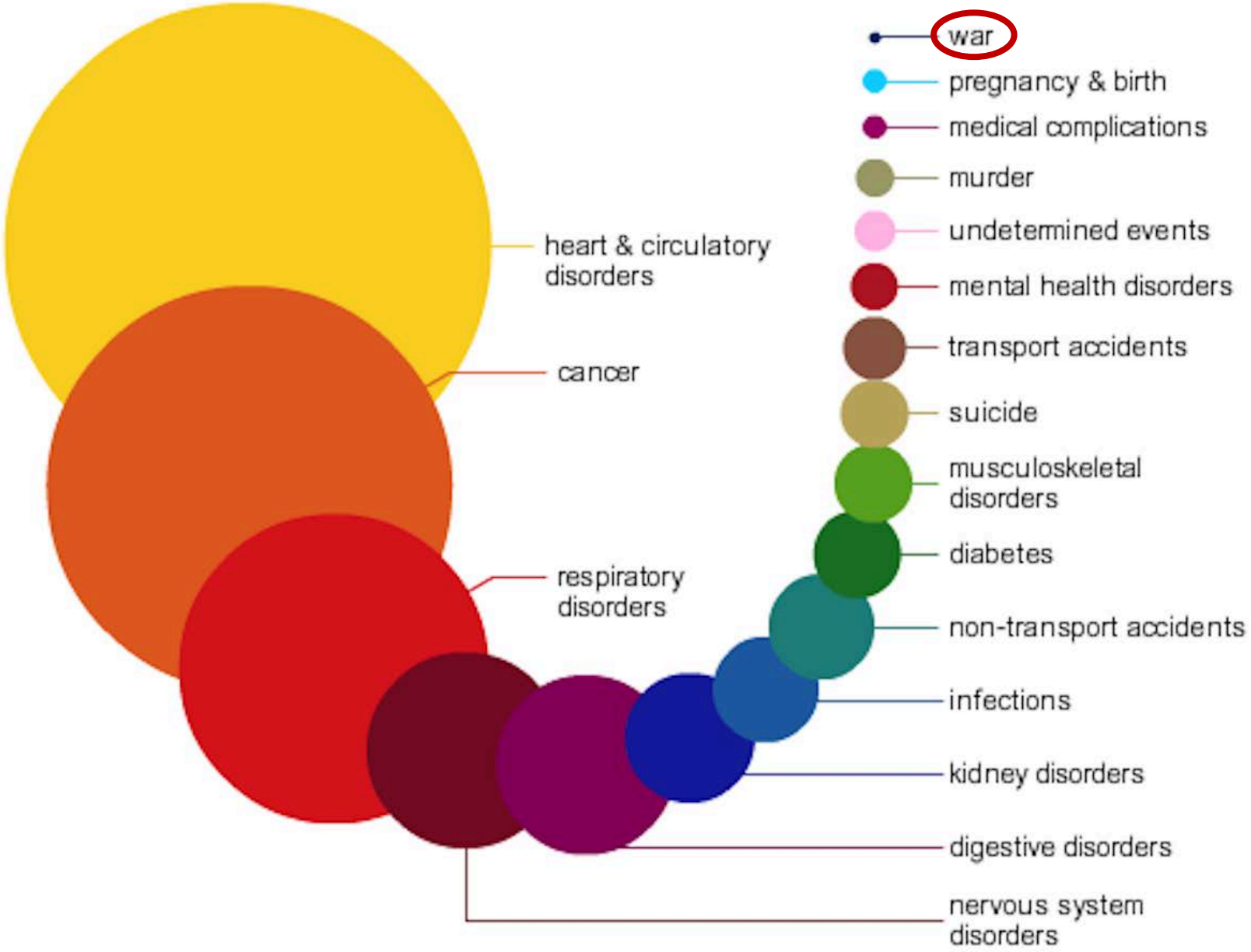
The majority of surgical deaths occurred in elderly patients admitted as emergencies with significant co-morbidities.

Actual cause of death often unpreventable and directly linked to their pre-existing health status.

* From more than 632,000 surgical procedures, 1,945 deaths, representing 0.3% mortality rate.

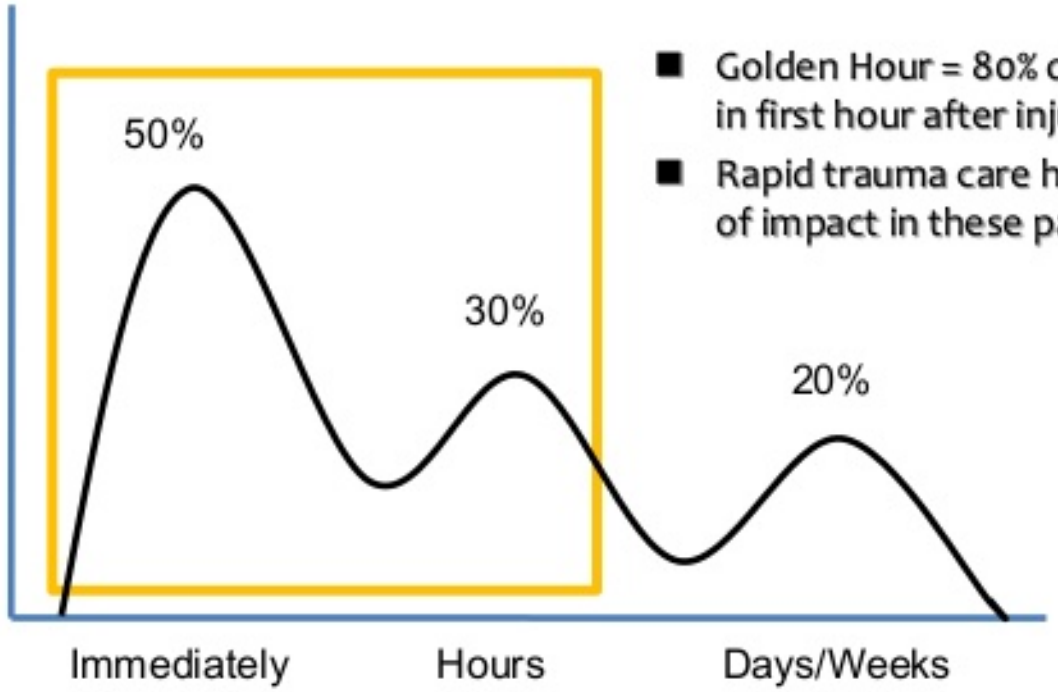
Unplanned return to O.R., often necessitated by a complication of the initial procedure, associated with increased risk of death.

Leading causes of death in perspective



Epidemiology

Trimodal Distribution of Trauma Deaths



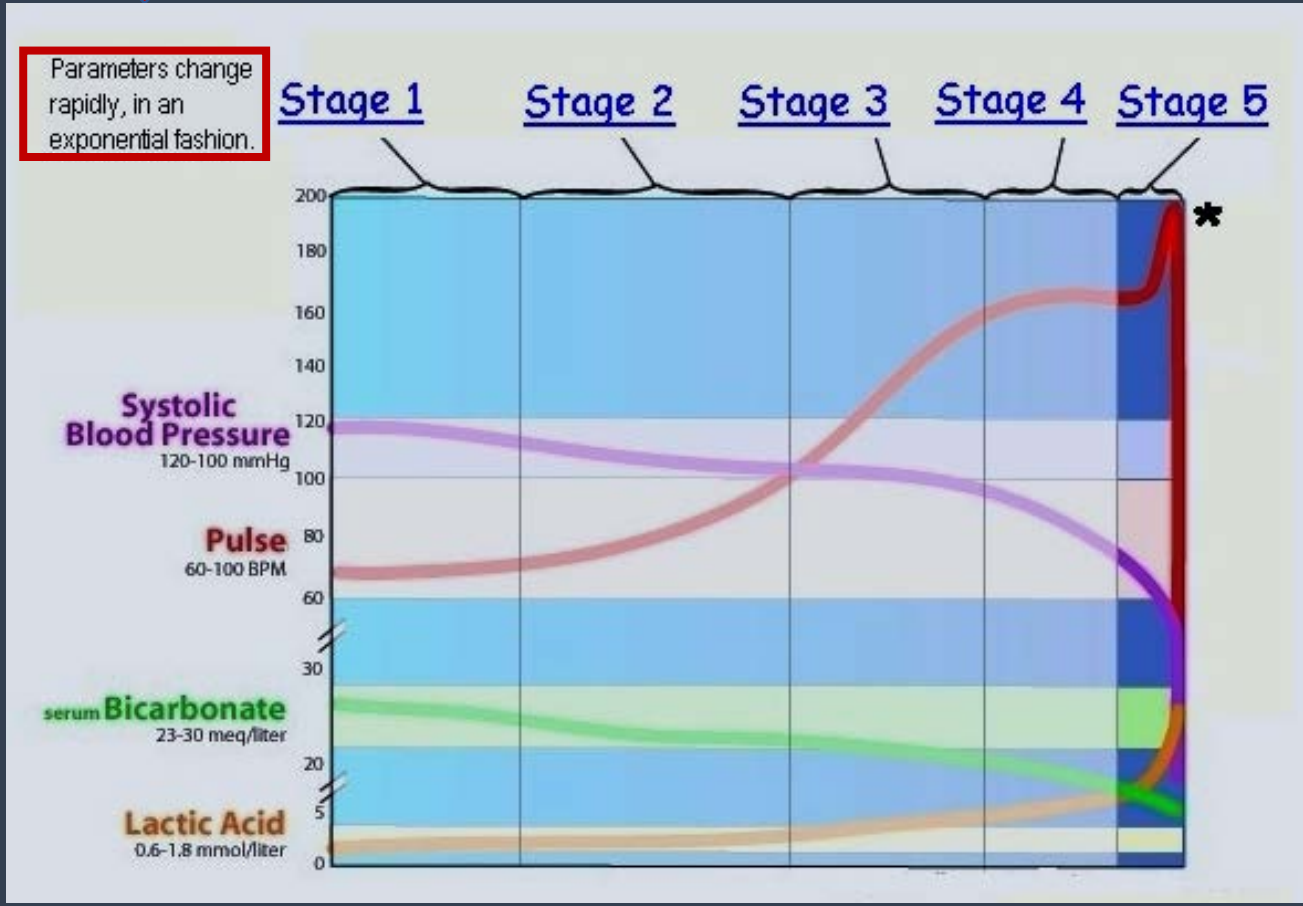
- Golden Hour = 80% of trauma deaths in first hour after injury
- Rapid trauma care has greatest level of impact in these patients

'The Golden Hour'.

The hour immediately following traumatic injury, in which medical treatment for preventing irreversible internal damage, and optimizing the chance of survival is most effective

Tri-modal distribution of Trauma Death

- First peak: second - minutes
  - ⇨ brain injury, high spinal cord, large vessels, cardiac arrest
  - ⇨ best treated by prevention
- Second peak: minutes - hours
  - ⇨ sub/epidurals, HTX/PTX, spleen, liver lac
  - ⇨ best treated by applying principles of ATLS
- Third peak: days-weeks
  - ⇨ sepsis, multi-organ failure
  - ⇨ directly correlated to earlier Rx

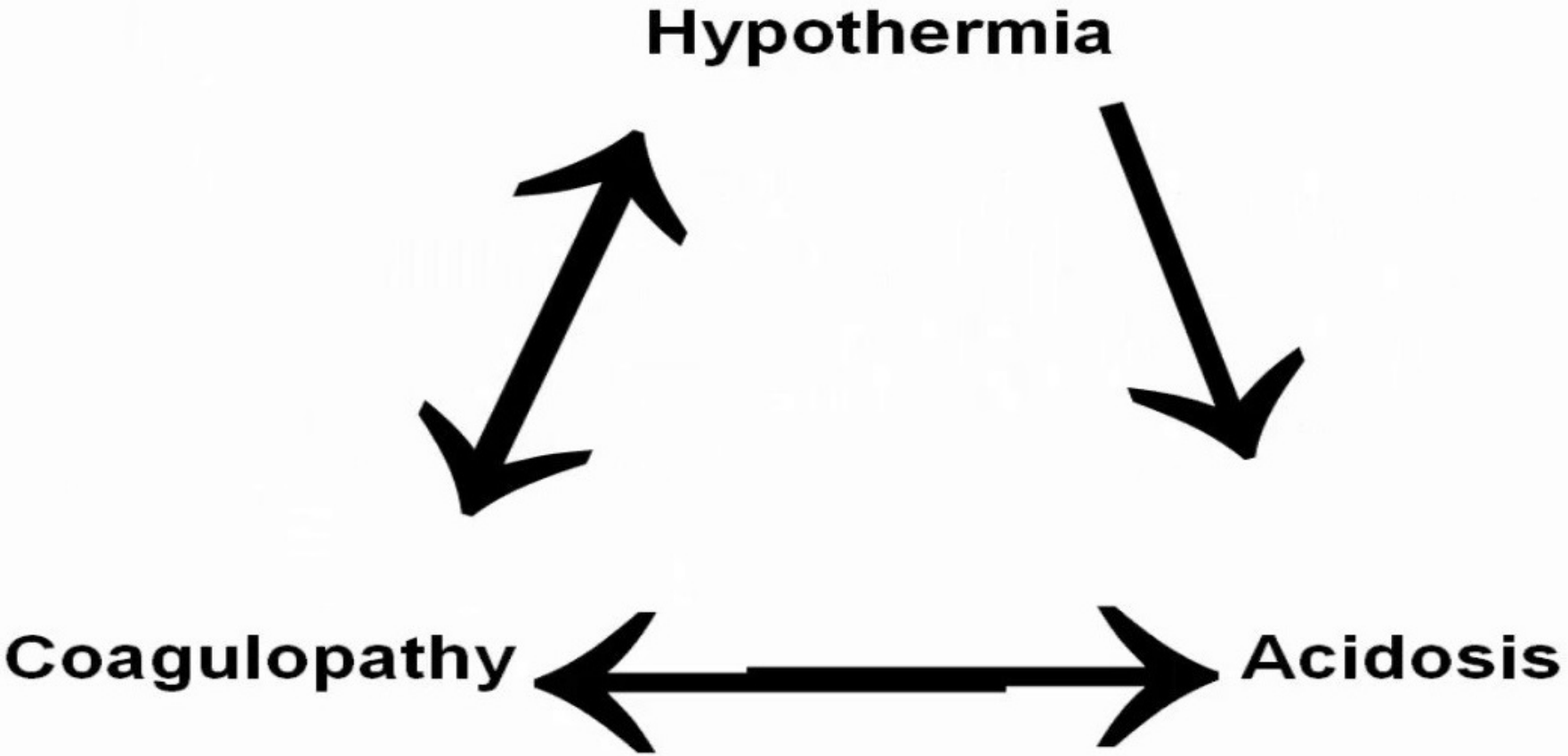

Parameters change rapidly, in an exponential fashion.
Stage 1
Stage 2
Stage 3
Stage 4
Stage 5
*
200
180
160
140
120
100
80
60
30
20
5
0
Systolic Blood Pressure
120-100 mmHg
Pulse
60-100 BPM
serum Bicarbonate
23-30 meq/liter
Lactic Acid
0.6-1.8 mmol/liter

the
GLASGOW COMA SCALE

Glasgow Coma Scale

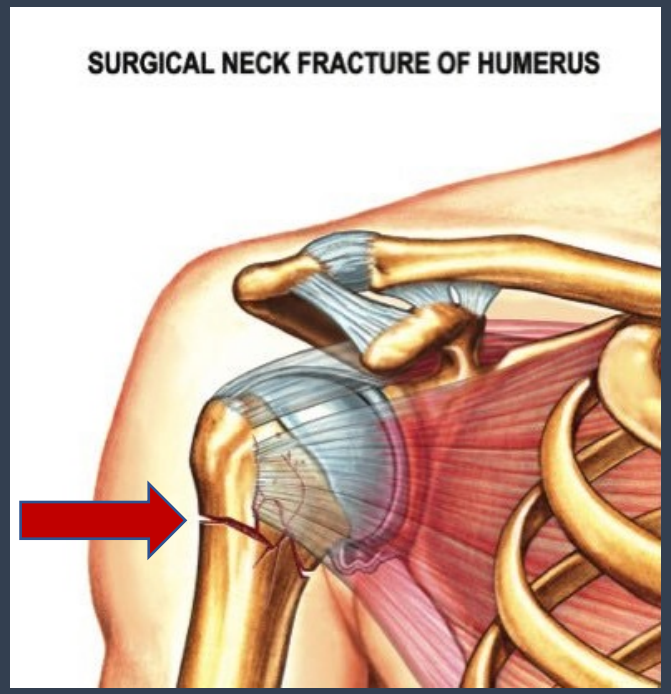
BEHAVIOR	RESPONSE	SCORE
Eye opening response	Spontaneously	4
	To speech	3
	To pain	2
	No response	1
Best verbal response	Oriented to time, place, and person	5
	Confused	4
	Inappropriate words	3
	Incomprehensible sounds	2
	No response	1
Best motor response	Obeys commands	6
	Moves to localized pain	5
	Flexion withdrawal from pain	4
	Abnormal flexion (decorticate)	3
	Abnormal extension (decerebrate)	2
	No response	1
Total score:	*Best response*	15
	Comatose client	8 or less
	Totally unresponsive	3

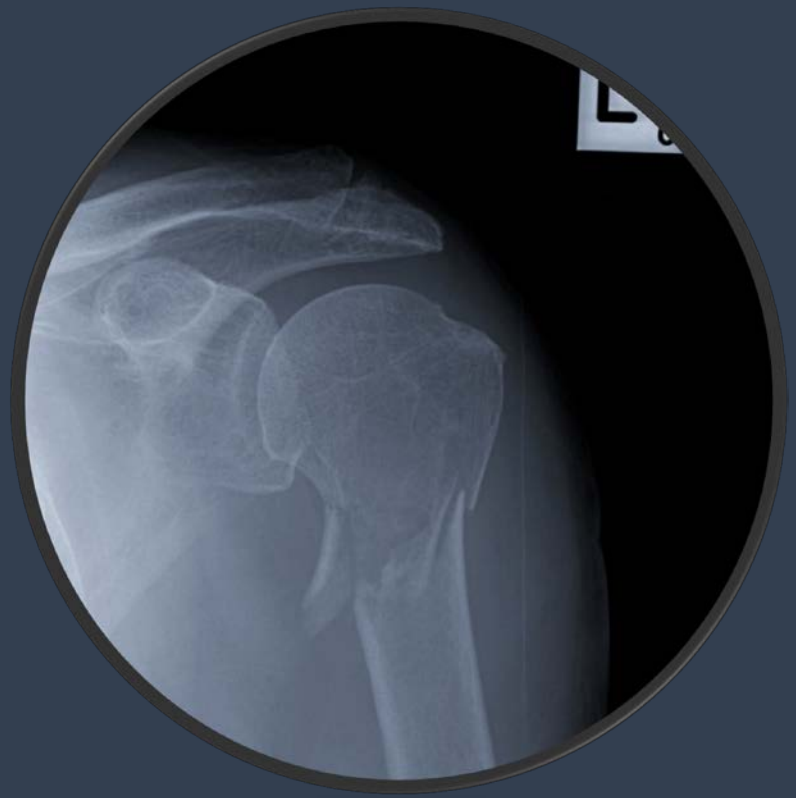
Physiological exhaustion : The triad of death



Case 1: 94year old male tripped over his wife and fell at home.

Diagnosis: #surgical neck left humerus.





Admitted to hospital for conservative management and pain relief.

Multiple comorbidities.

Admitted under medical unit.

No orthopaedic opinion sought.

On Day 4 of admission surgical team called.

Major abdominal surgery on days 4 and 6.

Admitted to ICU. Multi-organ failure.

DEATH

Non compound fracture of humerus.

Why did he die?

Constipation.

Colonic pseudo obstruction

Ischaemic caecal perforation.

Operation 1. Right hemicolectomy and ileocolic anastomosis.

Operation 2. Resection of failed ileocolic anastomosis with loop colostomy, mucous fistula and end ileostomy.

Post-extubation, aspirated, progressed to multiorgan failure.

DEATH

Audit findings.

- Orthopaedic opinion may have advised internal fixation of fracture.
- Reduced pain/reduced need for opiate analgesia.

- Patient had abdominal discomfort/distension two days prior to review.
- Peritonitis confirmed: immediate transfer to Theatre for laparotomy.
- Should patient have been reviewed early in admission by surgical team?

- Was there adequate protection of the airway post-extubation?
- Aspiration occurred with N/G tube in place: well documented risk associated.
- Why not utilise jejunal feeding tube?

LESSONS:

- OBSERVE
- RECORD
- REACT/RESPOND

Case 2: 39year old male came off motorbike at approx. 80km/h: slid into traffic pole.

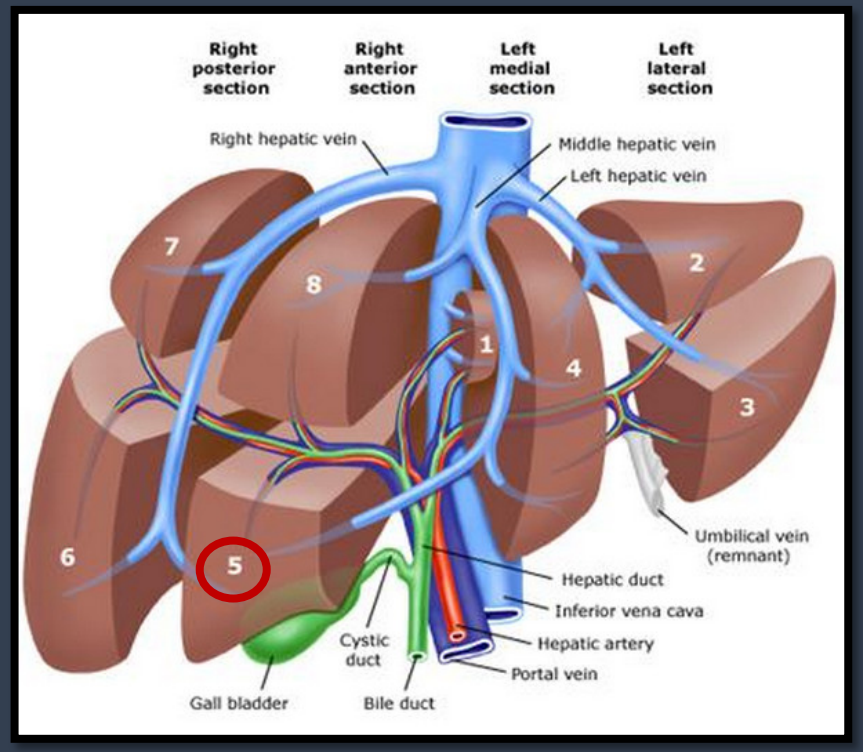
Assisted by bystander, brought to E.D. **Initial obs.** GCS=15. b.p. 130 systolic. Pulse 80.

Resp. function satisfactory. Injured R hand. Right abdominal guarding/tenderness.

CT scans: Subcapsular haematoma segment five of liver. Subcapsular haematoma of spleen.

Starburst fracture of right kidney. No evidence of free gas.

Haematoma and stranding around the mesentery, distal ileum and ileo-caecal valve.



Admitted to High Dependency Unit.

Treated conservatively with analgesia, fasting and IV fluids.

12/24 later: increasing abdominal pain and distension, tachycardia, right flank bruising. Falling Hb. Tachypnoea.

17/24 post admission: tachycardia, b.p. 93/62

36/24 post-admission: hypoxic, febrile 39.4. Antibiotics commenced

Despite increased IV fluids, renal function deteriorating.

Clinical progression.

Creatine Kinase=10,259 (Normal: <200)=significant rhabdomyolysis.

60/24 post admission: increasingly agitated, extensive right abdominal bruising, bruising extending to right thigh.

Day 4, CT scan confirmed much increased right flank haematoma containing gas.

Patient intubated.

Early Day 5: major hypotension, despite massive inotropes;

bradycardic; pH 6.9.

DEATH

Death Spiral of Shock

Shock

Tissue hypoperfusion

Myocardial dysfunction

- Release of vasodilators (i.e. nitric oxide)
- Systemic inflammation

- Vasoplegia
- 3rd space fluid extravasation


EXIT

Audit findings.

- Initial management reasonable: injuries at time of admission appeared survivable.
- CT scan raised possibility of ileo-caecal injury: noted several times in the notes.
- Despite steady deterioration/increasing signs of sepsis, conservative management.
- Sepsis suggested significant small bowel injury: urgent laparotomy indicated.
- Treating Surgical Unit persisted with conservative management: what was the reasoning?
- ?? Failure to see intraperitoneal gas on CT scanning = no bowel perforation or injury.
- Possibilities included caecal/terminal ileal ischaemia, retroperitoneal perforation.


SEEK
...and you shall find

Some Issues for Surgeons.

Is the surgery futile?

What are the risks of surgery?

Will there be a return to an acceptable quality of life?

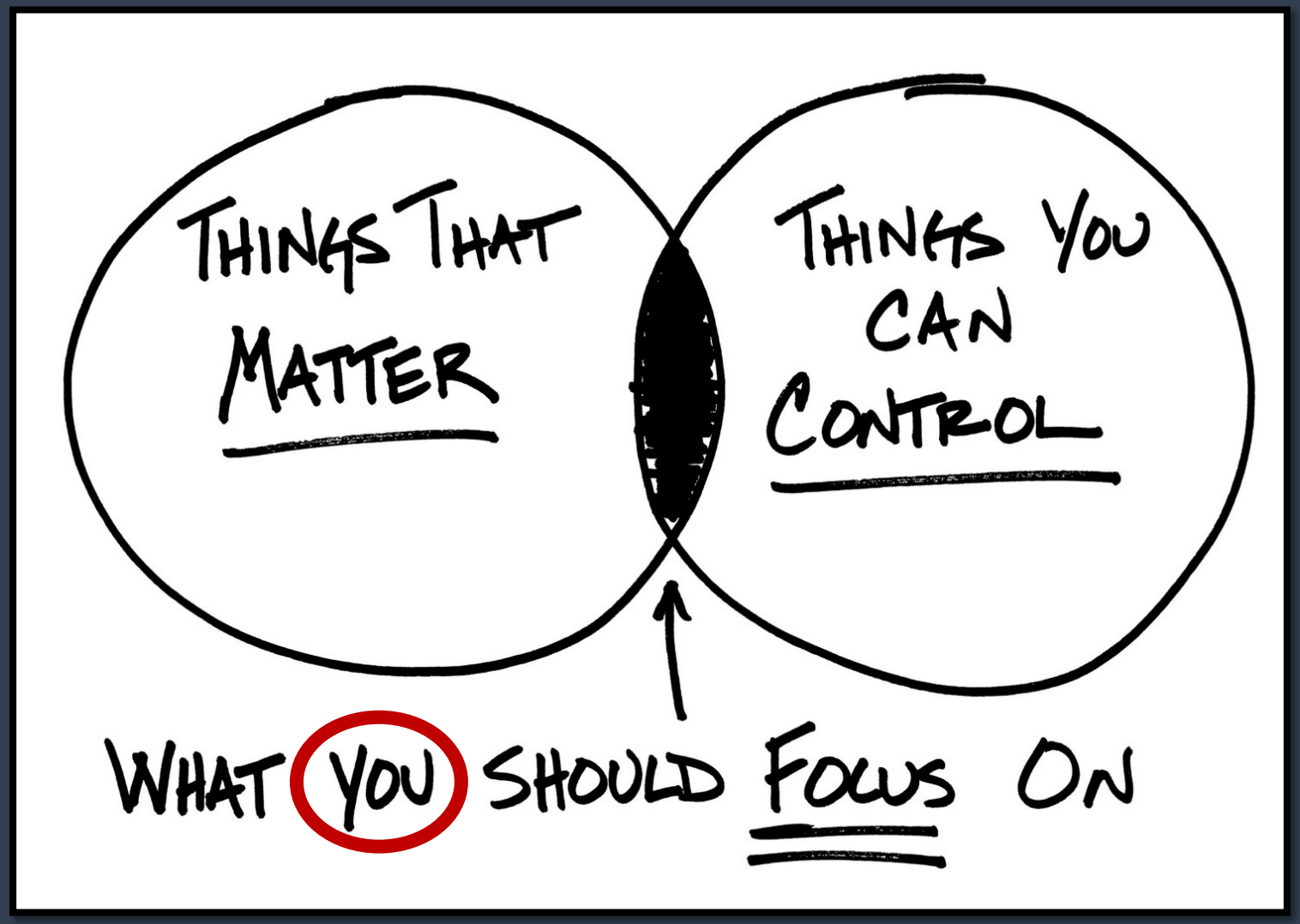
What is the expectation of the natural history of the illness?

What are the views of the patient?

Are there alternatives to an operation?

What are the legal implications of refusing surgical treatment?

Consider a Second Opinion from a colleague.


THINGS THAT MATTER
THINGS YOU CAN CONTROL
WHAT YOU SHOULD FOCUS ON

‘A regional perspective,

to improve patient outcomes’.

Mr Peter F. Burke.
Senior Consultant General Surgeon: LRH