



*Treating Intracranial Haematomas in a
Regional Hospital.
Could You? Should You?*

Mr Andrew Parker, Neurosurgeon
Capital & Coast DHB

Craniotomy in a Regional Hospital

Could you?
Should you?

Andrew Parker
Neurosurgeon CCDHB

Craniotomy in a Regional Hospital

Could you?
Should you?
How to

Andrew Parker
Neurosurgeon CCDHB

NICE Guidelines 2014 : CG176 Head injury

Commonest cause of disability and death in people aged 1-40 years

90,000 ED visits in NZ annually

33% Are children

95% Present GCS 13-15
“Minimal impairment”

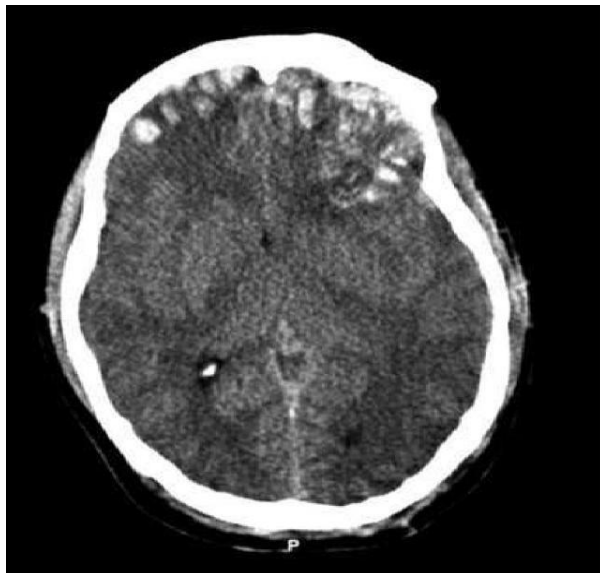
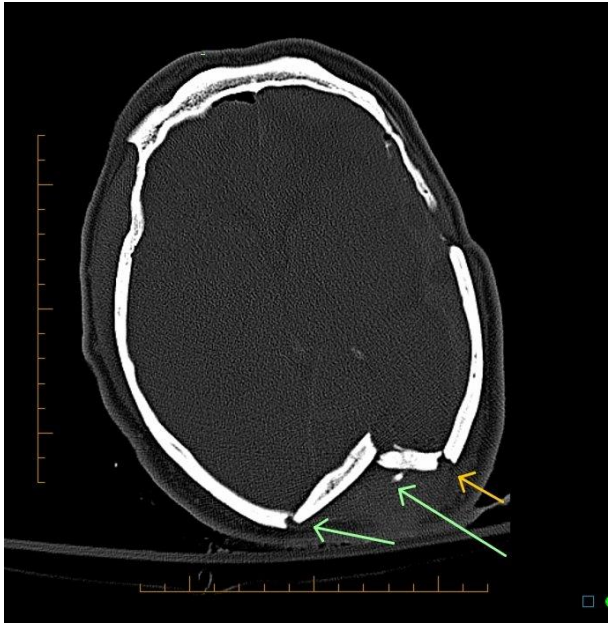
Most fatalities: GCS 12 or less

Emphasis on early detection and treatment of life threatening brain injury (and early discharge of those at negligible risk)



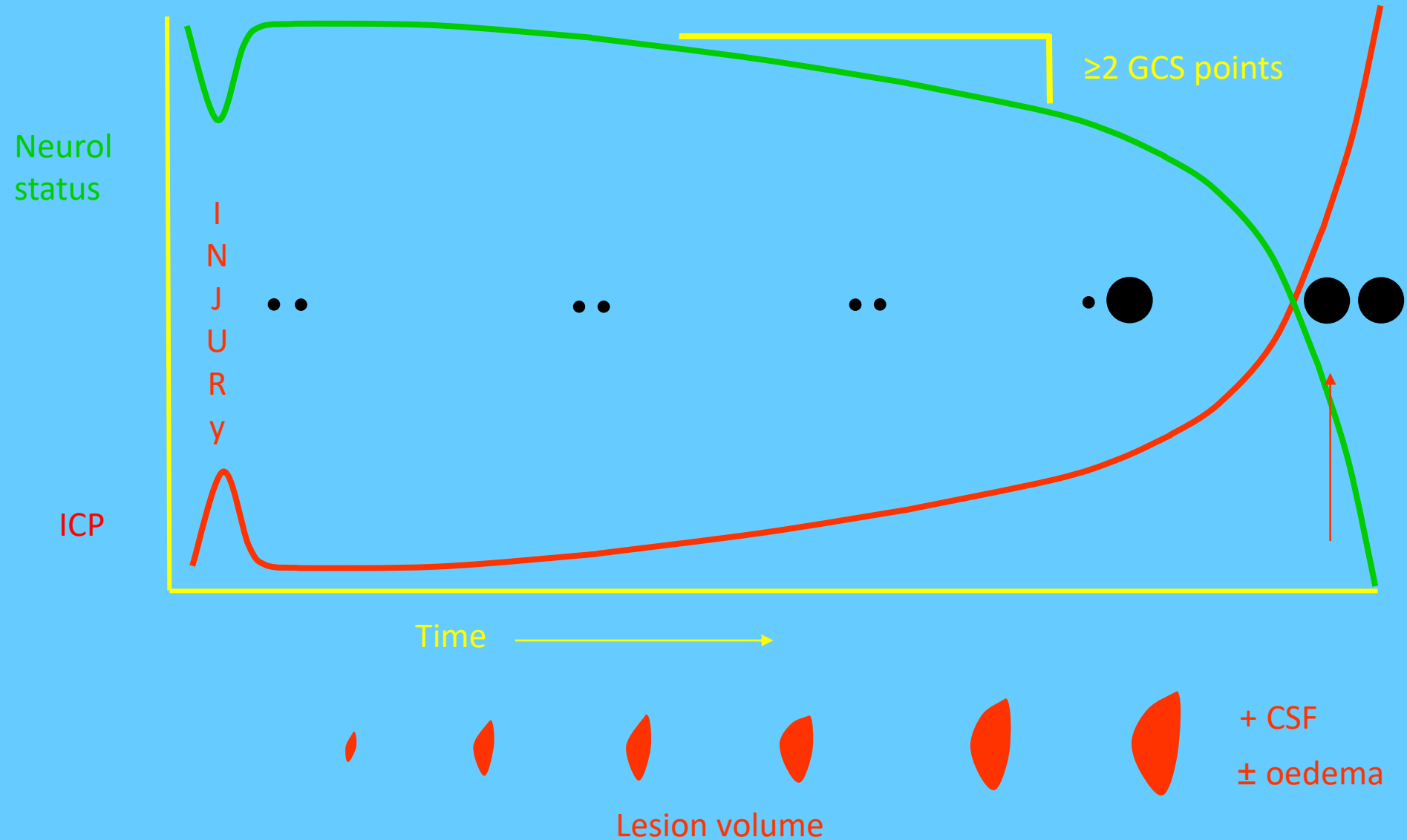
THE ENGLISH HAKA

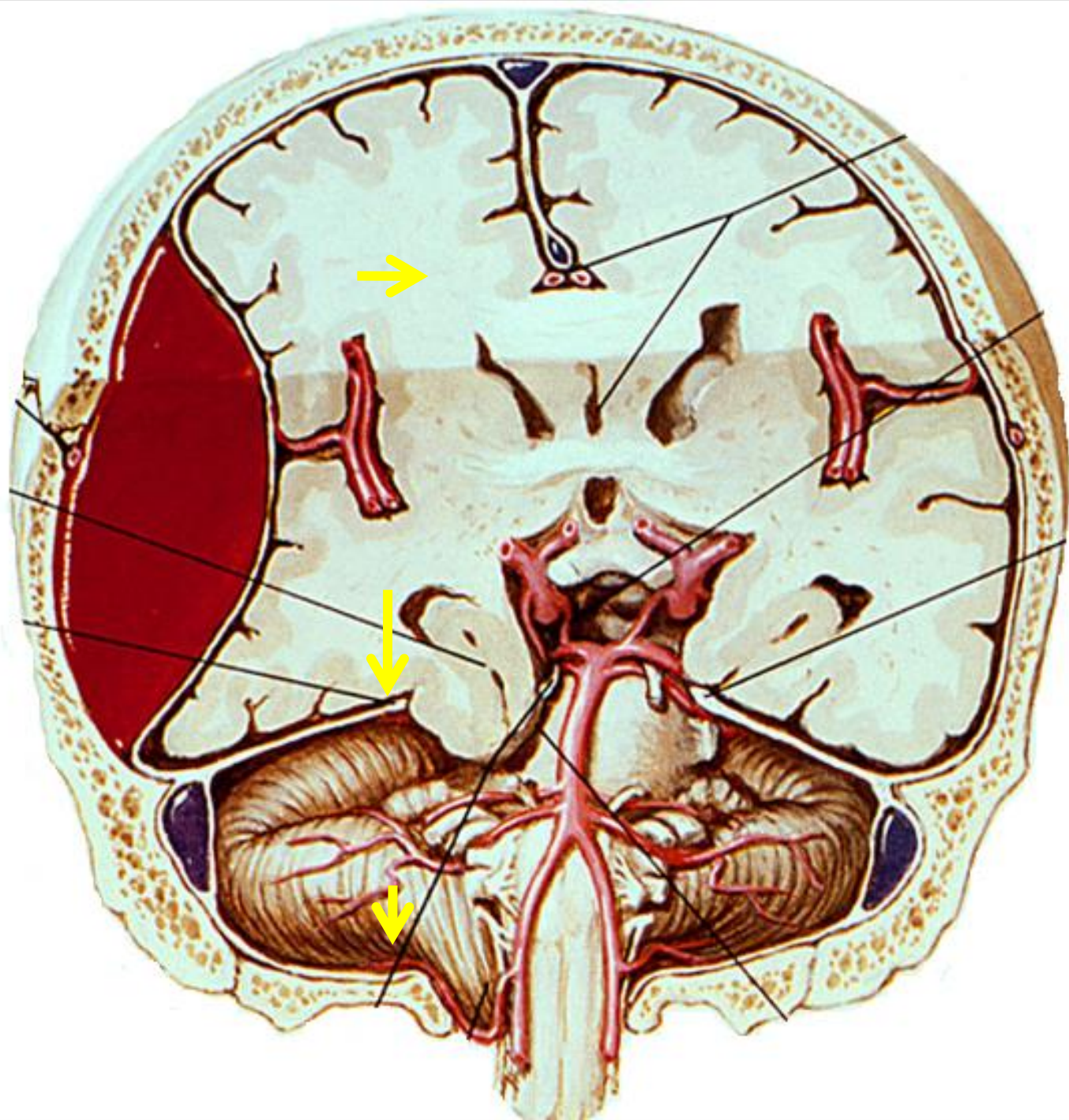
Head injury patterns



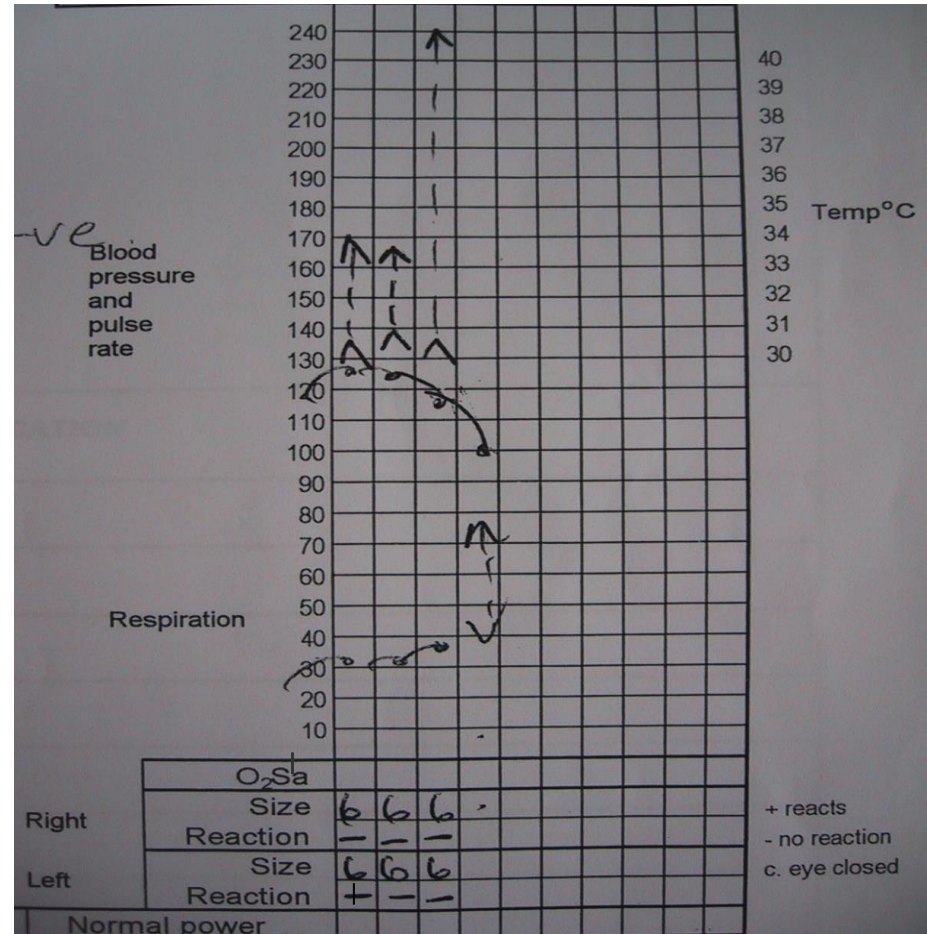
PATTERNS OF ACUTE HEAD INJURY

Pattern of neurological deterioration and the Pressure-Volume curve



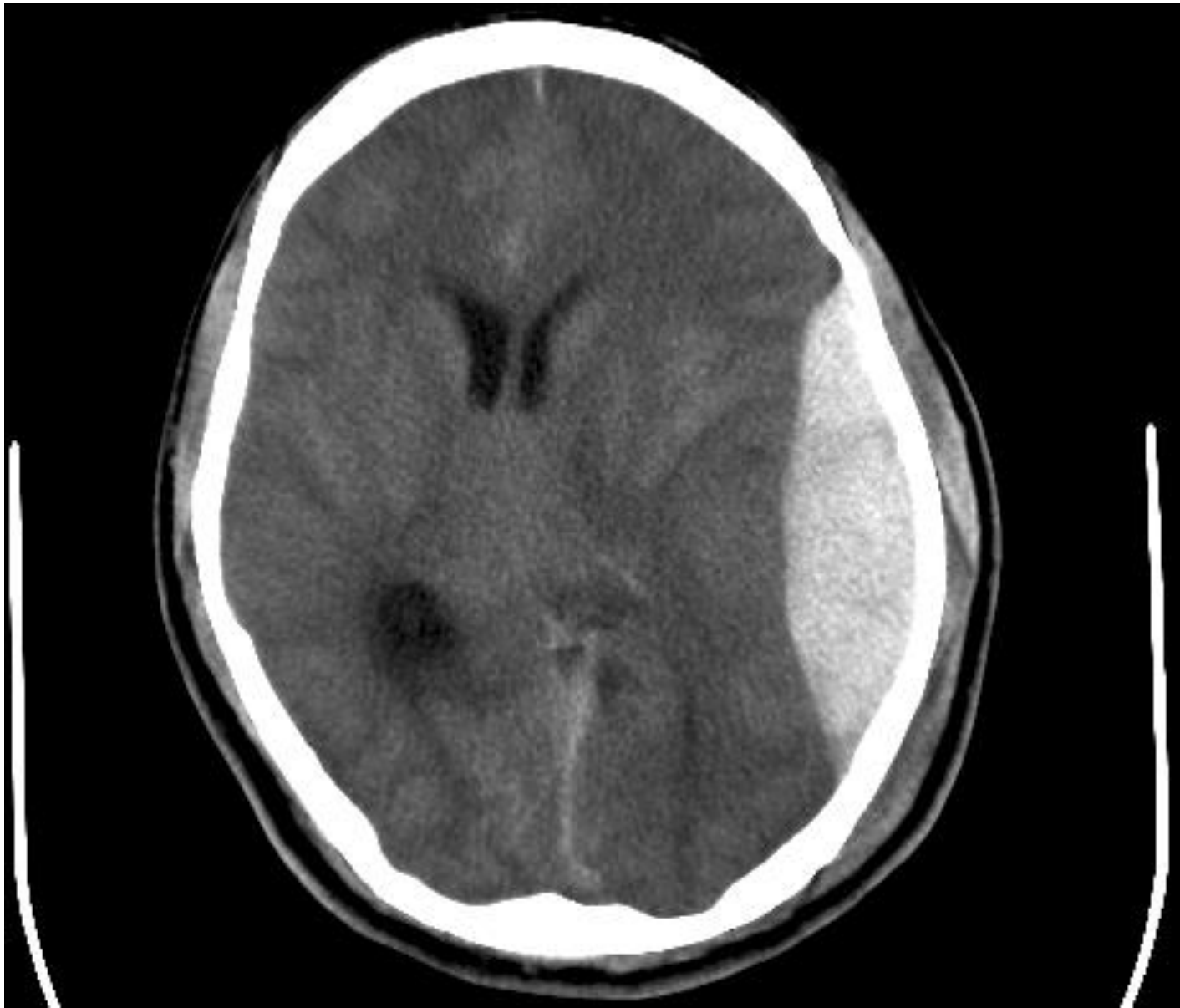


Observations

[illegible]

Godfrey Hounsfield





What are you going to do?

8000 BC



Two columns of ancient Egyptian hieroglyphic text from the Edwin Smith Papyrus, 1500 B.C. The script is written in dark ink on aged, yellowish-brown papyrus. The text is organized into two vertical columns, with the right column containing more text than the left. The hieroglyphs are arranged in horizontal rows, with some characters appearing in red ink, likely indicating specific medical terms or instructions. The overall appearance is that of a well-preserved but aged historical document.

Edwin Smith Papyrus, 1500 B.C.



Lower North Island



Flight times

WELLINGTON AEROMEDICAL RETRIEVAL SERVICE TIMES

Helicopter times

	1st call to take off	Travel to destination	Unload	Ambulance	Hospital	Ambulance	Loading	Return time		Total		
Blenheim	30	30	10		30		15	30		2 hrs 25		
Nelson	30	50	10		30		15	50		3hrs 10		
Wairarapa	30	35	10		30		15	35		2hr 35		
Palmerston North	30	40	10	15	30	15	15	40		3hrs 40		
Wanganui	30	60	10		30		15	60		3hrs 25		
Taranaki	30	90	10		30		15	90		4hrs25		



These are **average** times for when staff and aircraft are immediately available and all support services are in place, patient is non-ventilated and stable on arrival at referring hospital. Time is variable & dependent on wind speed, direction and route taken.

Fixed Wing Times

	1st call to take off	Travel to destination	Unload	Ambulance	Hospital	Ambulance	Loading	Return time	Unload	Ambulance to Wgtn	Total	Best times
Blenheim	60	25	15	20	30	20	20	25	15	15	4 hrs	3 hrs
Nelson	60	30	15	15	30	15	20	30	15	15	4 hrs	3 hrs 30
Wairarapa	60	25	15	15	30	15	20	25	15	15	4hrs	3 hrs 30
Palmerston North	60	30	15	20	30	20	20	30	15	15	4 hrs 30	3 hrs 30
Wanganui	60	40	15	20	30	20	20	40	15	15	4 hrs 30	4 hrs
Taranaki	60	50	15	30	30	30	20	50	15	15	5 hrs 30	5 hrs

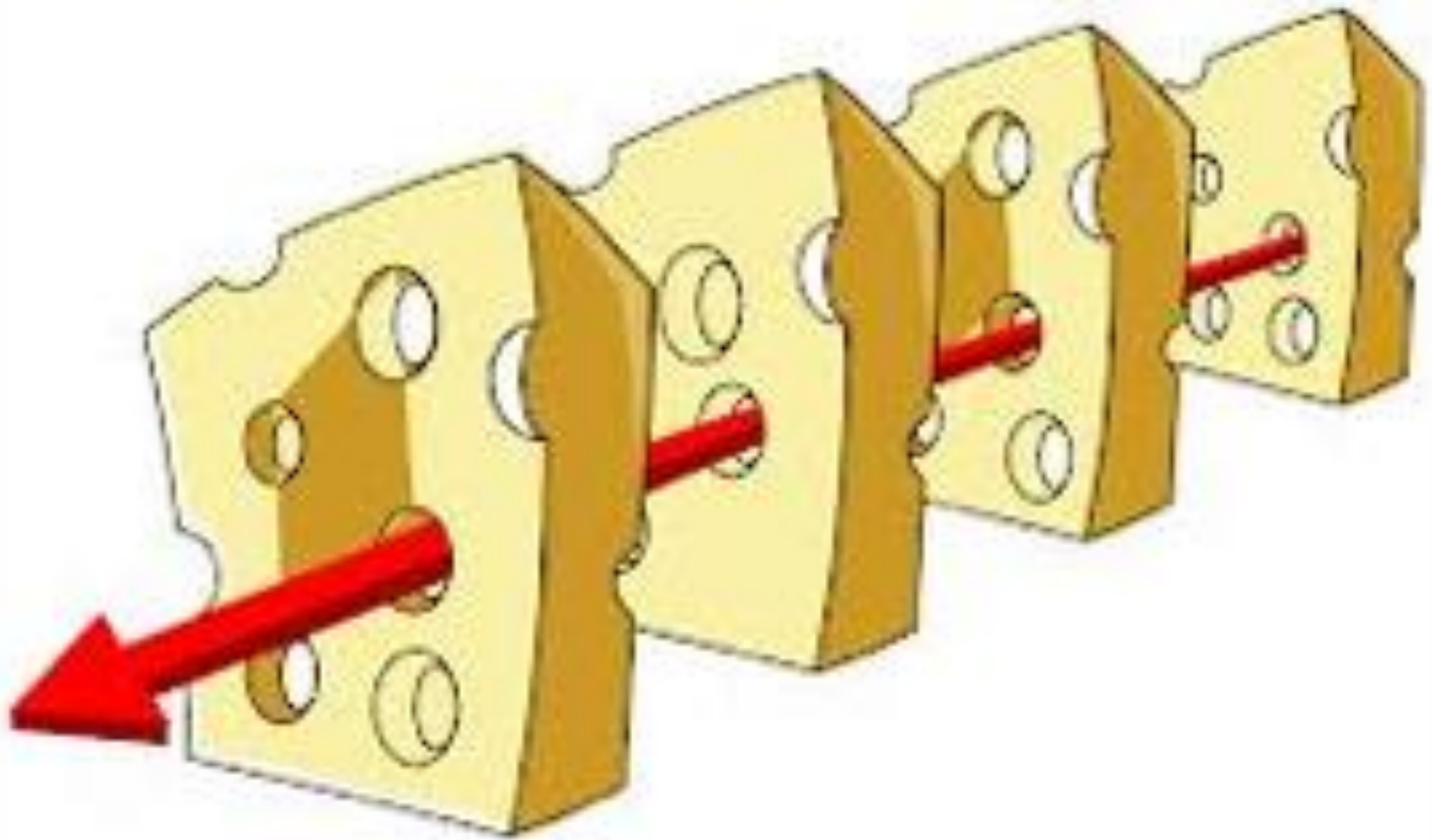


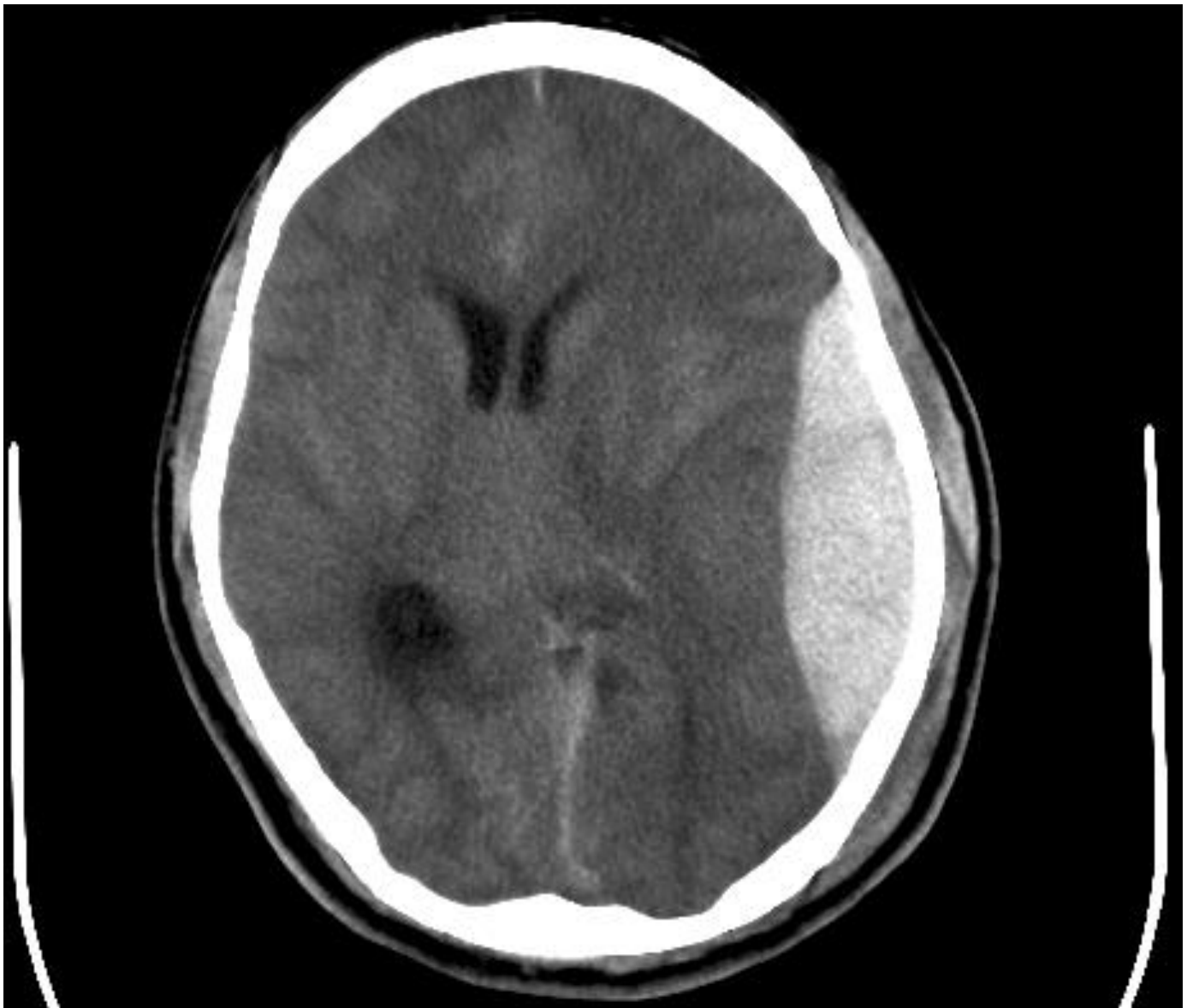
These are **average** times for when staff and aircraft are immediately available, patient is non-ventilated and stable on arrival at referring hospital. Standard time of 60 mins before takeoff is for pilots to perform mandatory aircraft checks, weather checks and file flight plans.

Weather



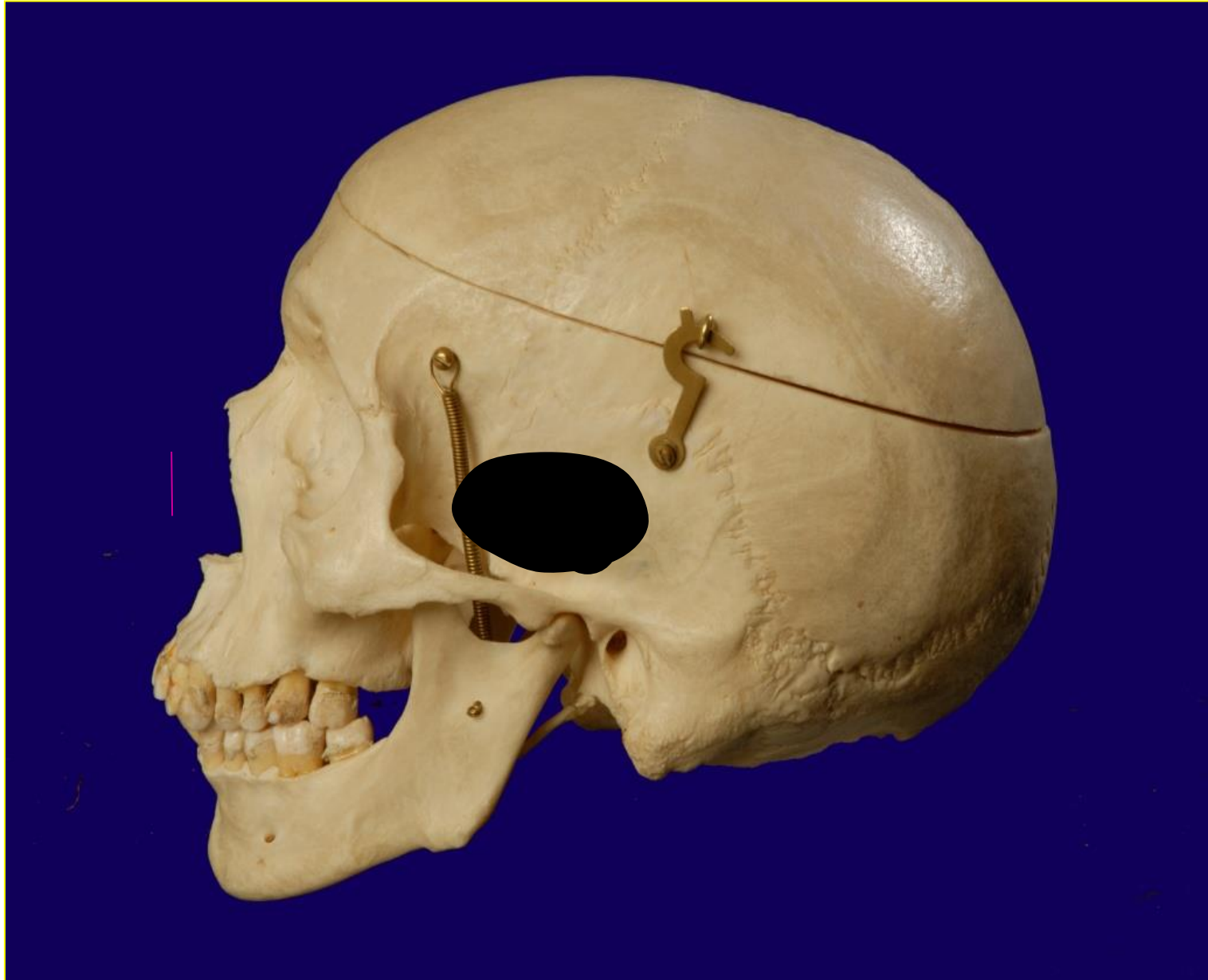
How common is this?



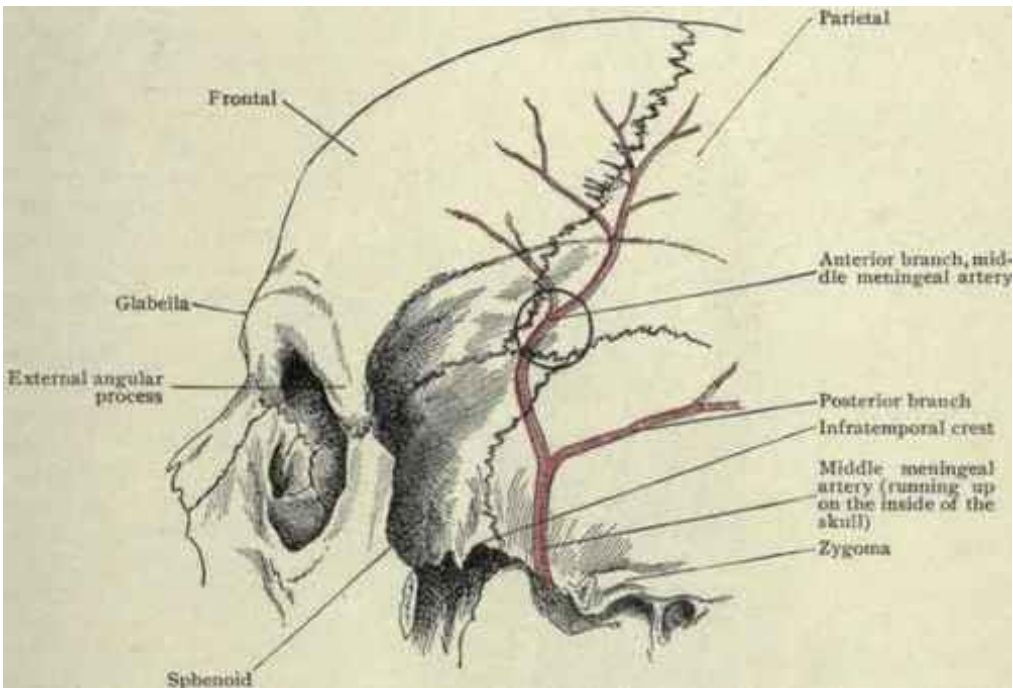


Extra dural + blown pupil = immediate surgery

EMERGENCY CRANIECTOMY



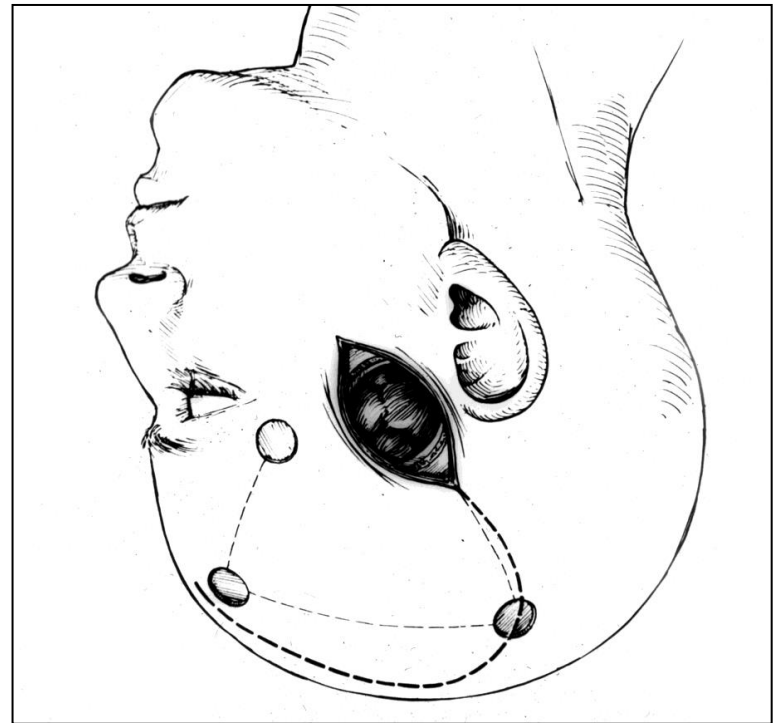
Anatomy



A black and white portrait of a middle-aged man with a prominent mustache. He is wearing a dark suit jacket over a light-colored shirt and a dark tie. The background is dark and out of focus.



Incision



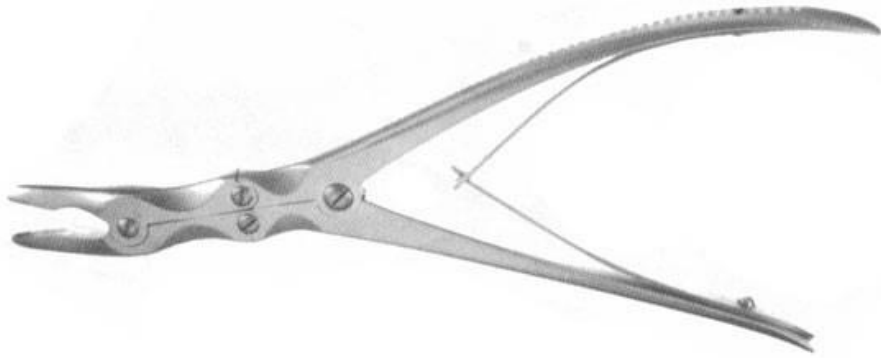
Expose & Retract



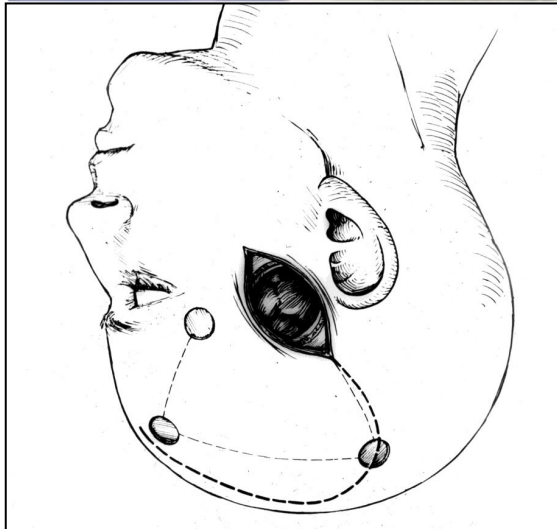
Drill



Expand & Evacuate

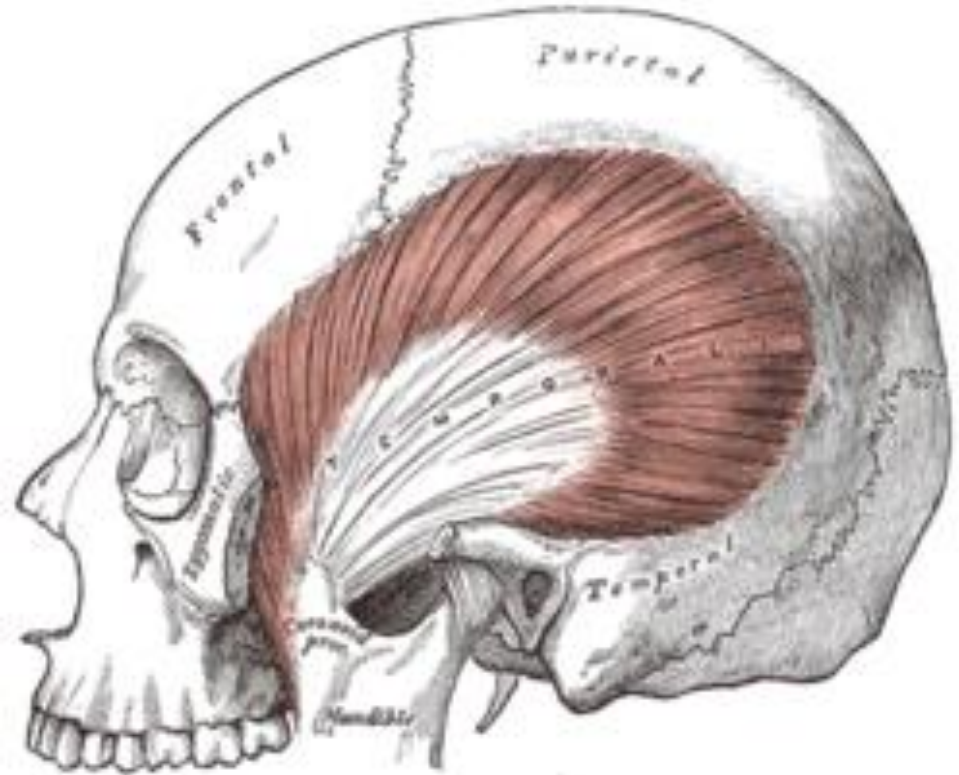


Result:

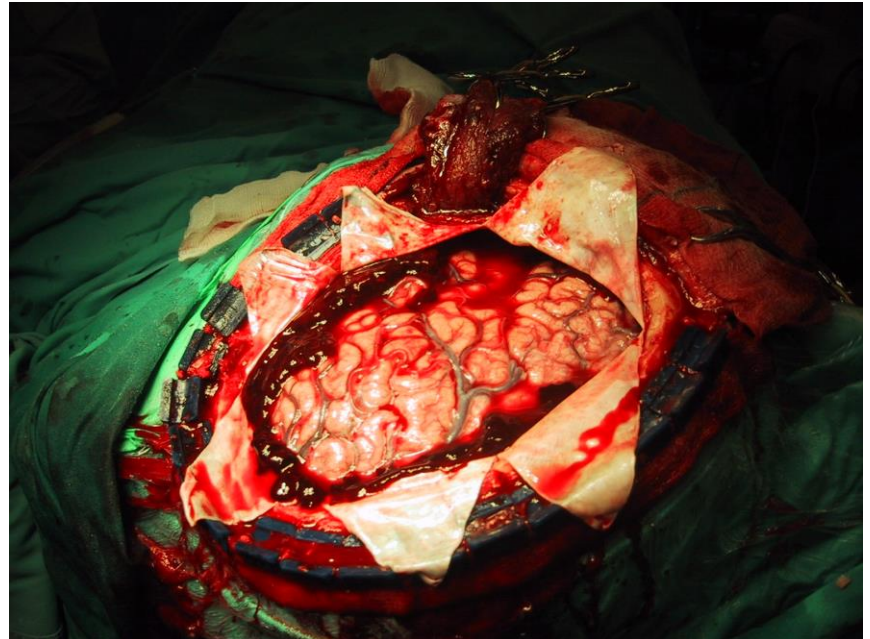
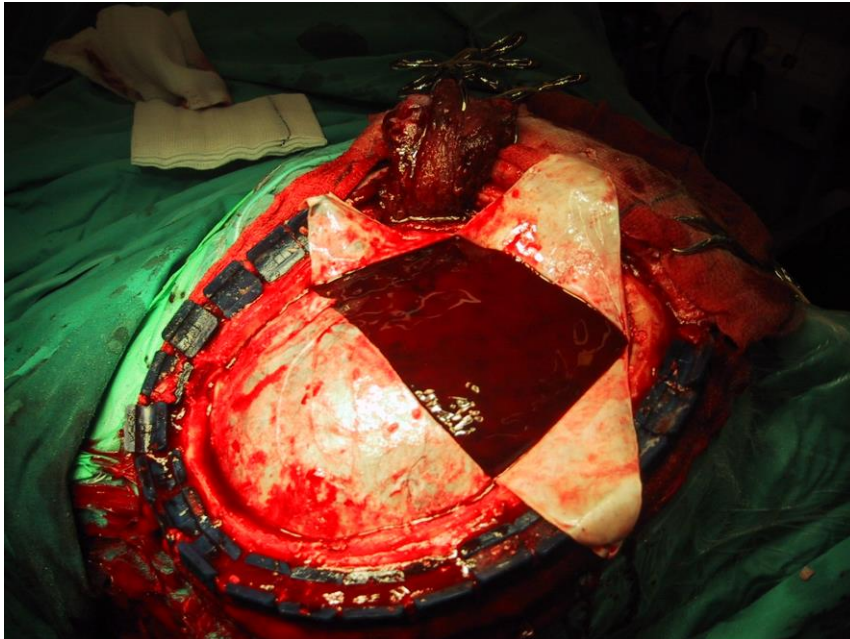
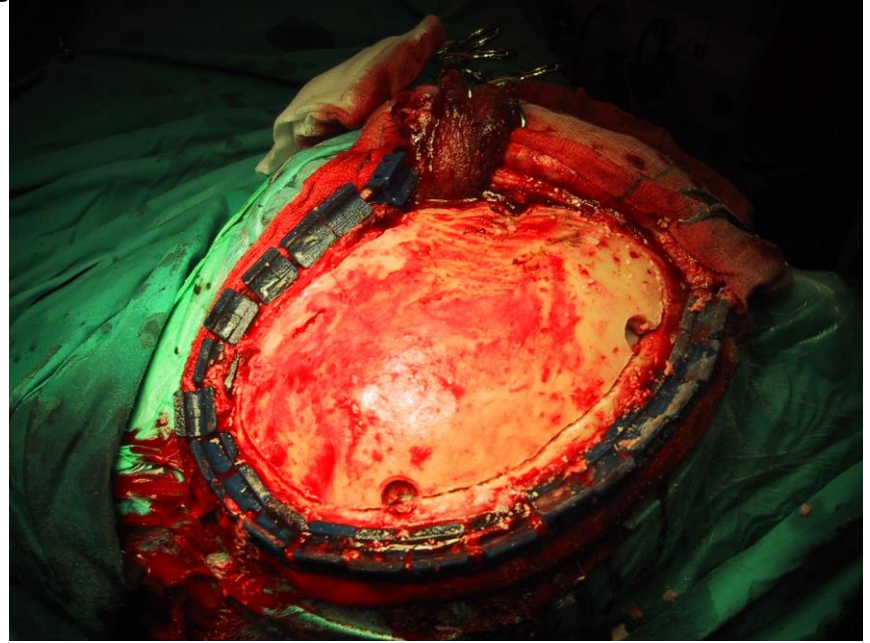
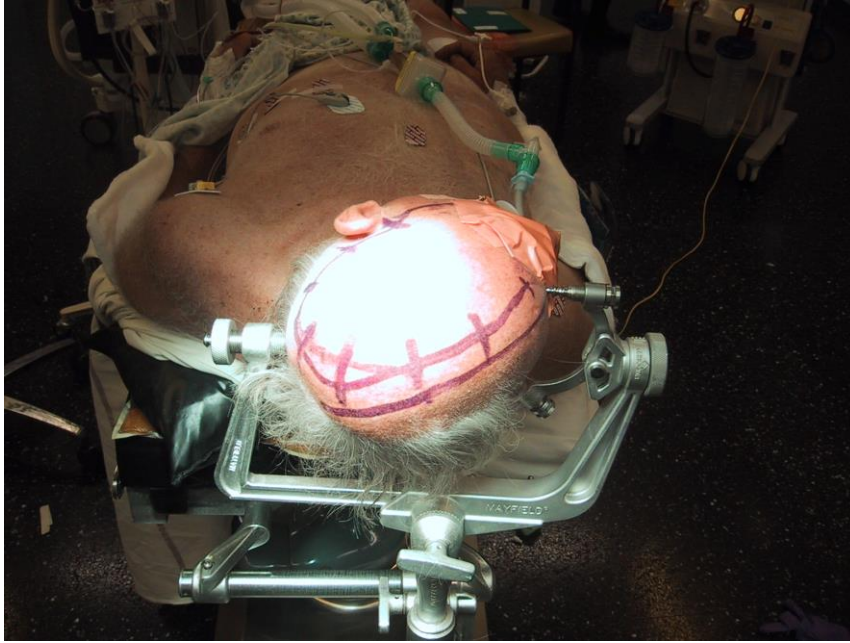


Haemostasis
Closure?
Transfer?

Chronic Subdural?



Craniotomy for ASDH?



Further information



Emergency burr holes: "How to do it"

Wilson *et al.*



Wilson *et al.* *Scandinavian Journal of Trauma, Resuscitation and Emergency Medicine* 2012, **20**:24
<http://www.sjotrem.com/content/20/1/24> (2 April 2012)



Neurosurgical Society of Australasia Inc

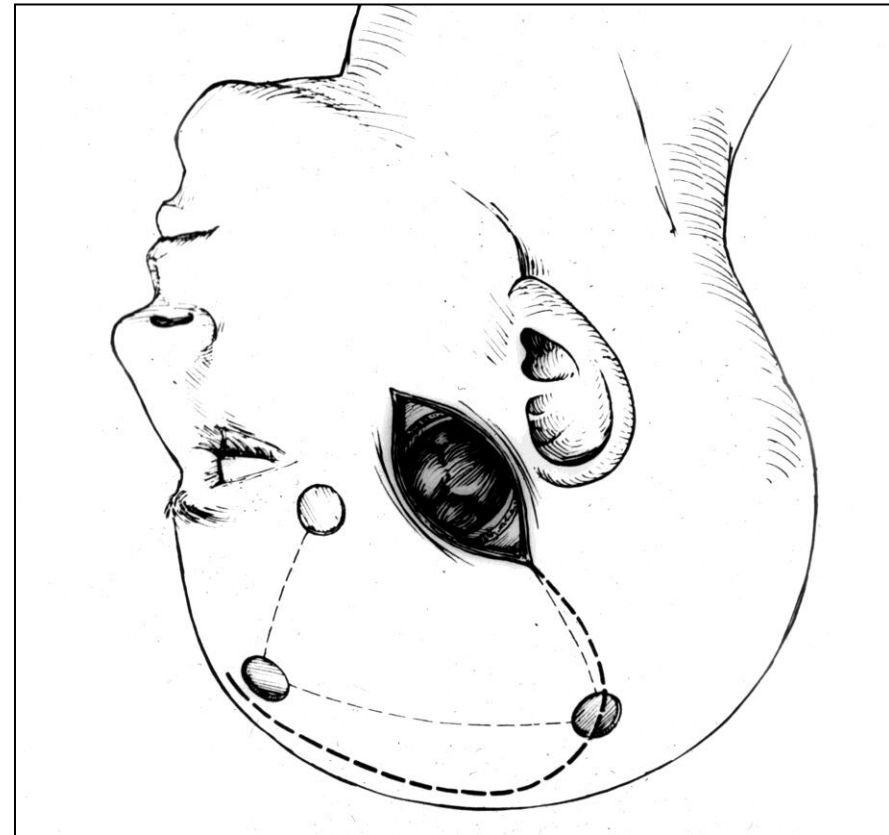


The Management of Acute Neurotrauma in Rural and Remote Locations

A set of guidelines for the care of head and spinal injuries

Emergency craniectomy for EDH

- Early recognition
 - Access to a body cavity with haemostasis
 - An essential skill in a regional hospital
 - Requires team support
 - Call a neurosurgeon
- We'll talk you through it



Any Questions?



Thank you

