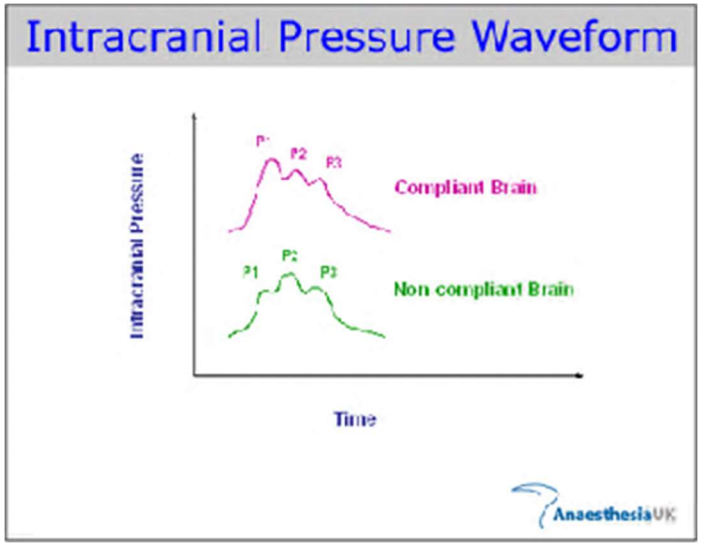
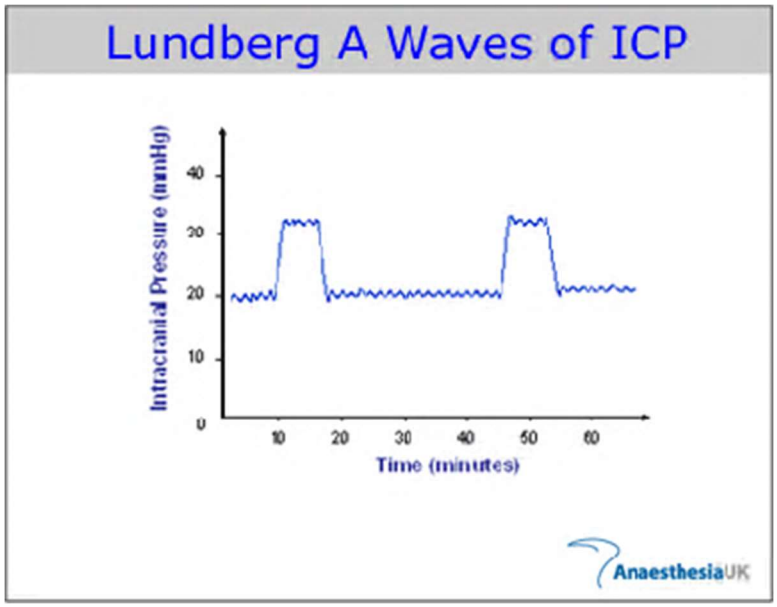
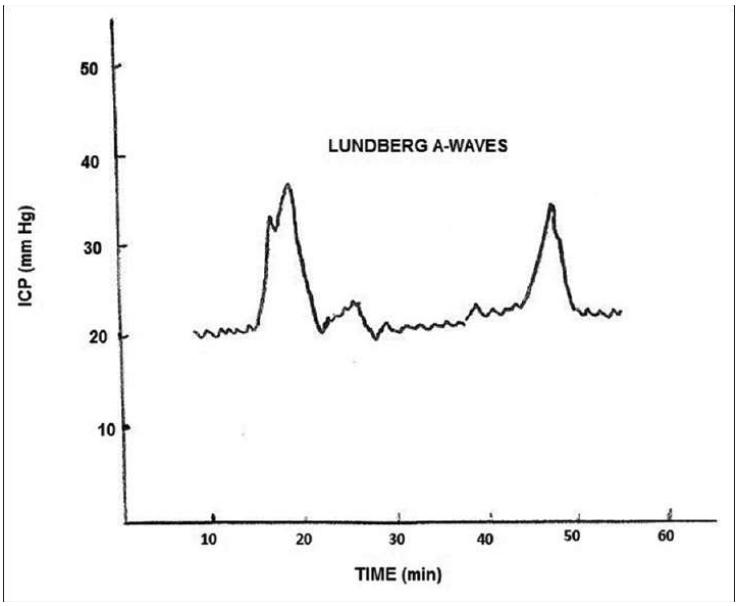
ICP monitoring
P1 systolic contraction, systole
P2 cerebral compliance, correlates with AV closure
P3 or part of P2 – CHECK -- dichrotic notch
P3 tidal wave, corrs w/ anterograde flow during diastole

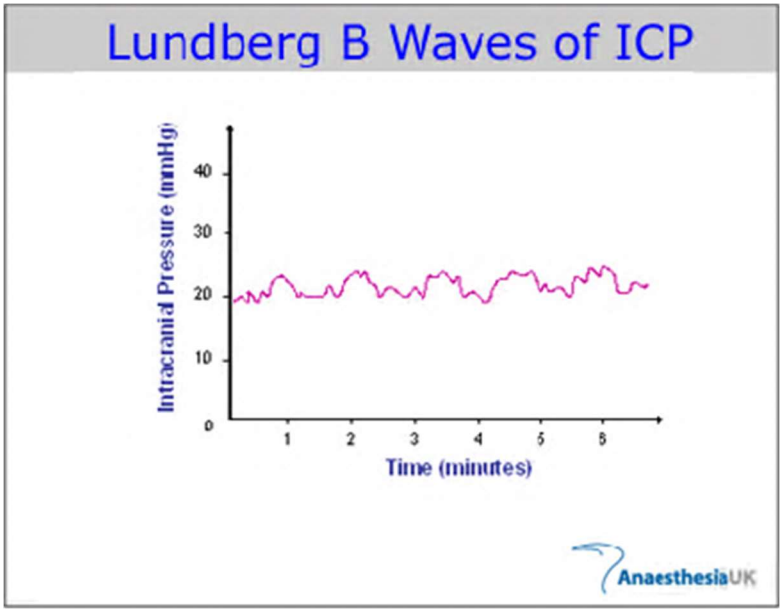
Cerebral bld flow incs in resp to hypoxia and causes profound elev in ICP.

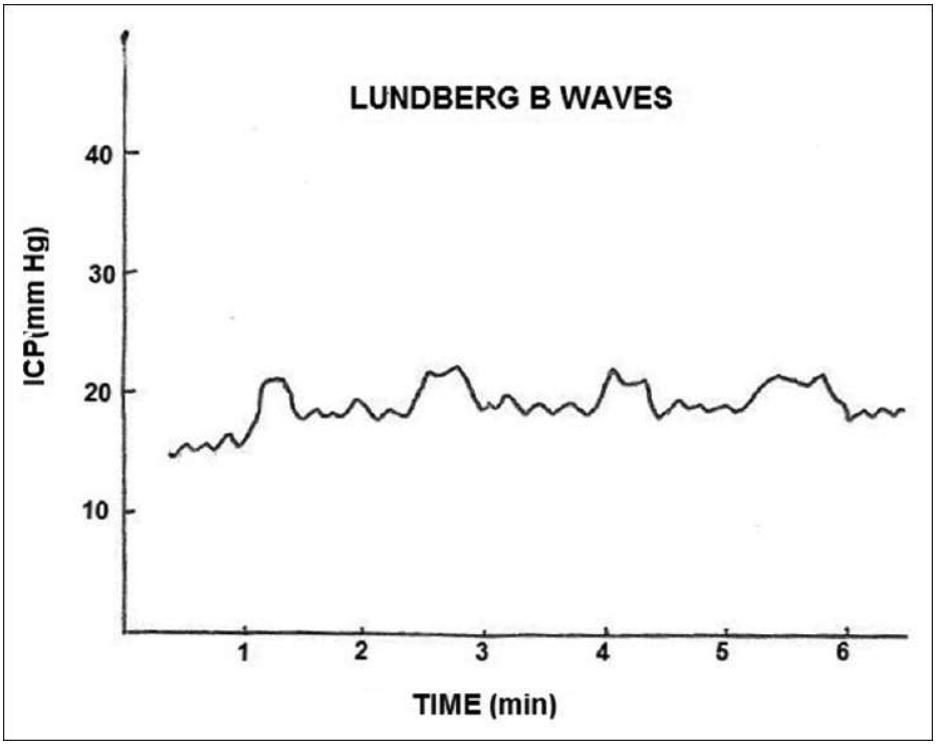


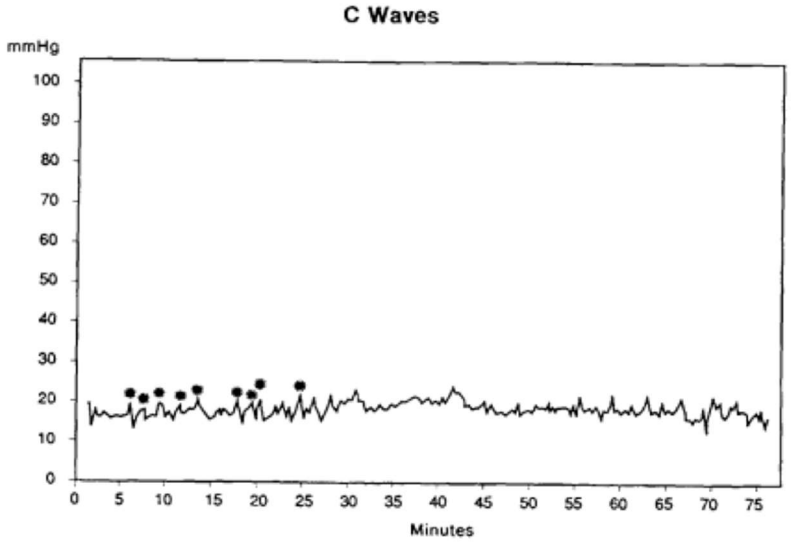
P2 > P1 as ↓ intracranial compliance
Lundberg waves
look at chg in ICP over prolonged time
A-waves steep incs in ICP for 5-10 min at a time, always pathological, usually represent early brain hern
B-waves slow oscillations q 1-2 min rep pot vaspospasm
C-waves physiologically nl fast oscills, 4-8x/min



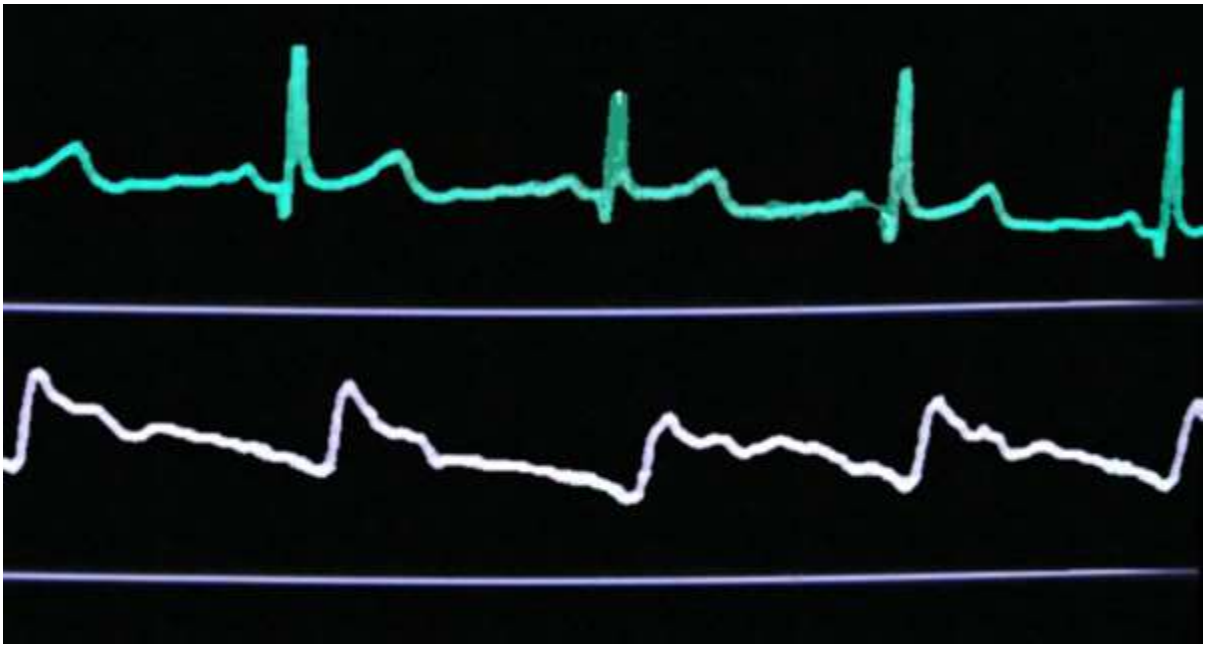

LUNDBERG A-WAVES
ICP (mm Hg)
50
40
30
20
10
10
20
30
40
50
60
TIME (min)


Lundberg B Waves of ICP
Intracranial Pressure (mmHg)
40
30
20
10
0
1
2
3
4
5
6
Time (minutes)
AnaesthesiaUK

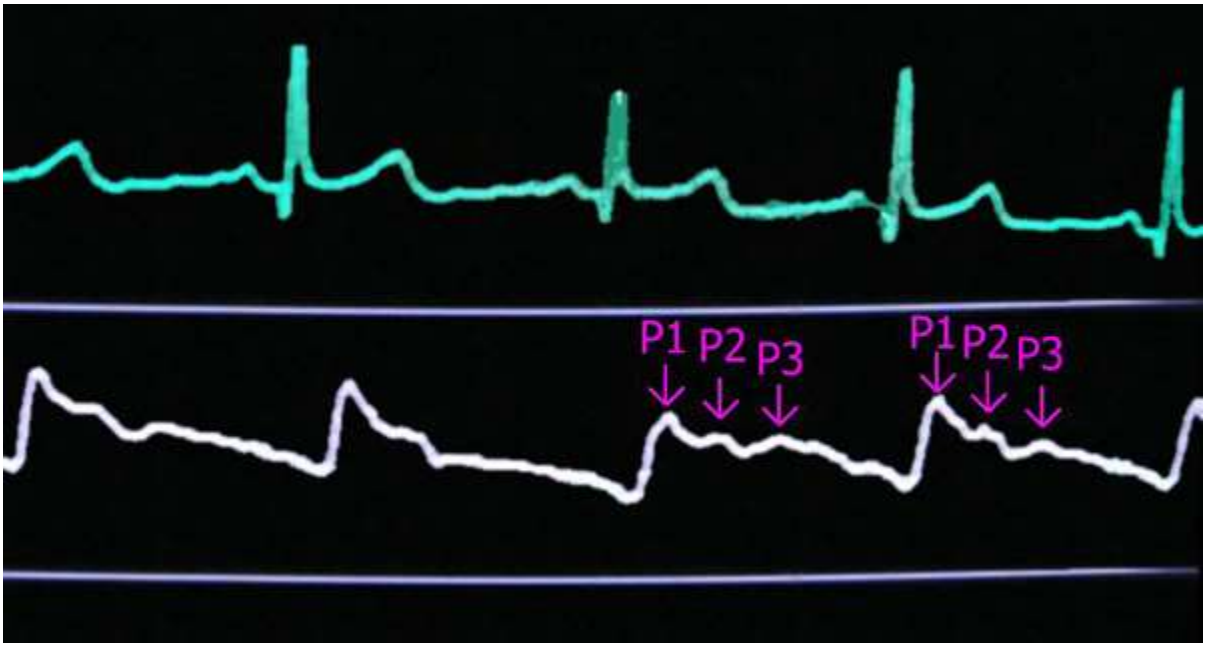




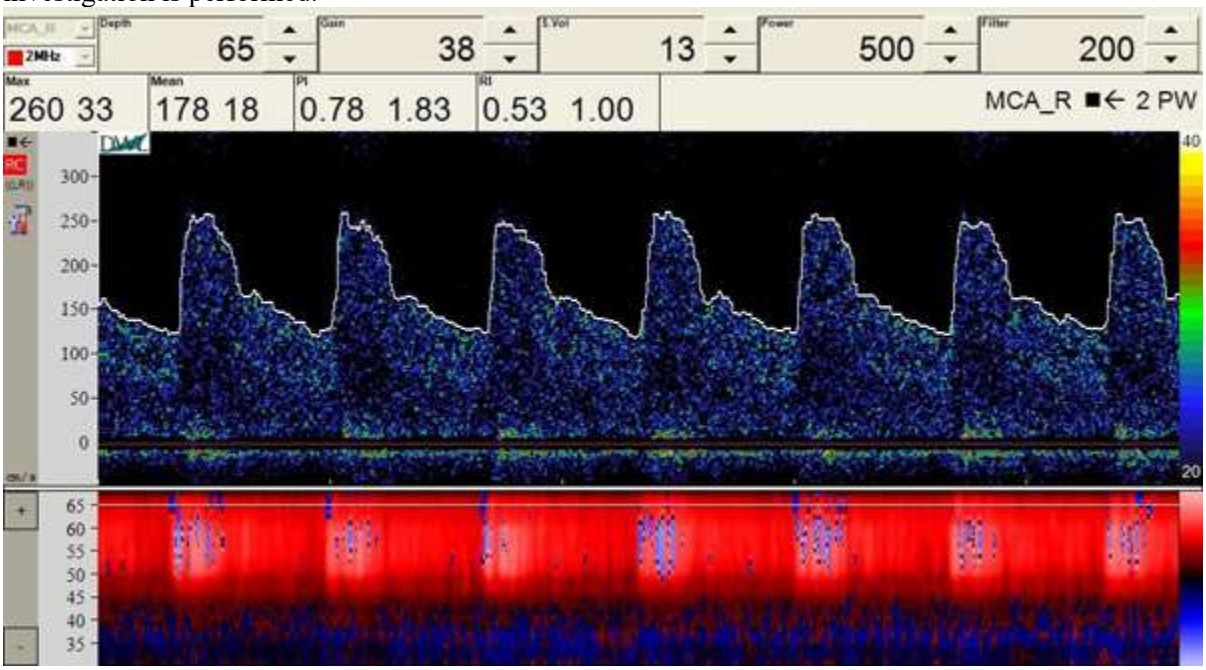
The white waveform shown is of the ICP waveform of a patient with a severe traumatic brain injury. The pressure at this time was 14mmHg. The aim of therapy was <20mmHg. Give 2 reasons why you think the reading is likely to be an accurate reflection of intracranial pressure.

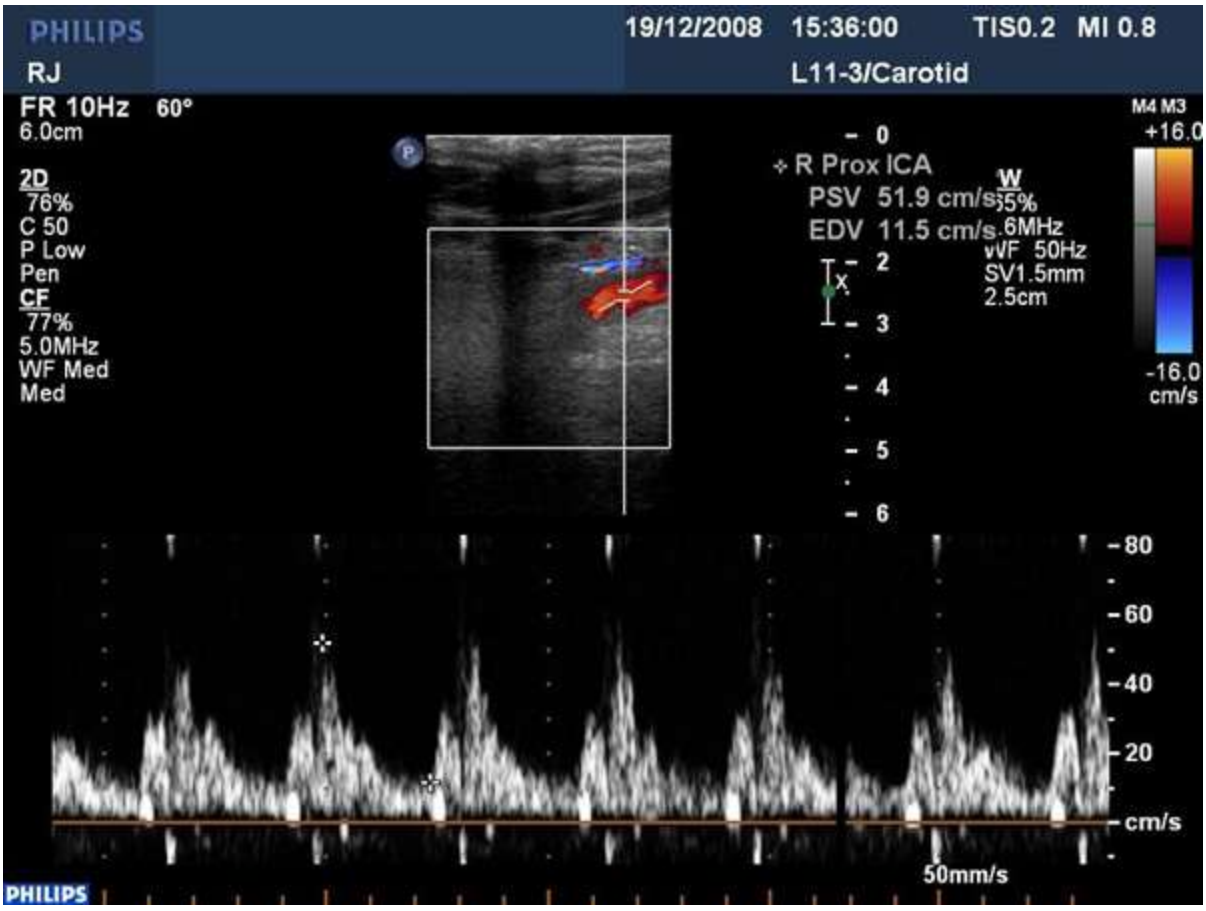


A normal non-damped waveform is seen with a clearly visible P1, P2 and P3. If intracranial compliance was poor a prominent P2 would be expected.



A 36 year old patient is day 5 of his admission to the ICU following a witnessed collapse. The CT brain showed a Fischer grade 3 subarachnoid hemorrhage. His level of consciousness deteriorated from withdrawing from a central noxious stimulus, to extension to the same stimulus. His pupils remain equal and reactive to light. His EVD does not appear to have increased in its output rate. The following investigation is performed.





a) What is this investigation?
b) What does it demonstrate?
c) List 3 management options.