Investigation of raised intracranial pressure

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CT is a first-line investigation to identify causes of raised ICP , including mass lesions, bleeds, cerebral oedema and hydro cephalus, and to guide treatment. Outside the emergency setting many pathologies, as well as the anatomy relating to potential treatments such as third ventriculostomy , may be better visualised on magnetic resonance imaging (MRI). T gold standard for quantifying ICP and monitoring in real time is by transducing CSF pressure through an external ventric ular drain or insertion of a pressure monitor into the brain substance (Figure 48.3). Summary box 48.1 Raised ICP /uni25CF /uni25CF /uni25CF /uni25CF

P1 P2 P3 Normal brain P2 P3 P1 Pressure Injured brain Time Figure 48.3 The intracranial pressure waveform. The P1 percussion wave corresponds to arterial pulsation. Reduced brain compliance in the setting of traumatic brain injury among others is associated with a prominent P2 tidal wave. The P3 dicrotic wave represents venous pulsation. Acutely raised ICP is a neurosurgical emergency. Clinical features include: Headache Nausea and vomiting Diplopia and blurred vision Drowsiness then coma

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