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SPECIFIC SPINAL INJURIES Upper cervical spine (skull–C2)

Occipital condyle fracture This is a relatively stable injury often associated with head injuries and is best treated in a hard collar for 6–8 weeks. Occipitoatlantal dislocation This injury is usually caused by high-energy trauma and is often fatal. The dislocation may be anterior, posterior or to assess skull translation. Treatment is with a halo brace or occipitocervical fixation. Atlas fracture (Jefferson fracture) Fracture of the C1 ring is associated with axial loading of the cervical spine and may be stable or unstable (Figure 30.25a,b Associated transverse ligament rupture may occur (Figure 30.25c). Most are treated non-operatively in a cervical collar or halo brace. Barry Powers , contemporary , Chief and Clinical Professor of Radiology , Duplin General Hospital, Kenansville, NC, USA, described his ratio in 1979. Sir Geo ff rey Je ff erson , 1886–1961, Professor of Neurosurgery , University of Manchester, UK, became the UK’s first Professor of Neurosurgery in 1939. In 1947 he was elected a Fellow of the Royal Society , a rare distinction for a practising surgeon. Although he became a neurosurgeon, he performed the first successful embolectomy in England in 1925 at Salford Royal Hospital. (a) (b)).

Figure 30.23 Vertical occipitocervical dislocation. B O A C Figure 30.24 Powers’ ratio. BC/OA ≥ 1 indicates anterior translation; ≤ 0.75 indicates posterior translation. (c) Figure 30.25 Stable (a) versus unstable (b) Jefferson’s fracture of C1. (c) Open mouth view of C1/2 demonstrating C1 lateral mass deviation (arrows). Rupture of the transverse ligament is present when the combined lateral mass deviation exceeds 6.9 mm.

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