

Periorbital ecchymosis

Periorbital ecchymosis is a useful clinic sign that should alert the clinician to assess for skull fractures, intracranial haemorrhage, and cranial nerve injury.

It is caused by blood tracking along tissue planes into periorbital tissues, causing discoloration in the upper and lower eyelids. This clinical feature is most commonly associated with [skull base fractures](#).

Somasundaram et al. retrospectively reviewed 36 consecutive cases of patients presenting to the emergency department with PE over a three-year period at St. Michael's Hospital in Toronto.

All patients presented to the emergency department with PE. The mean age was 39 years (range 19-88 years), 31 patients were male. PE was associated with a variety of injuries including: 15 basal skull fractures, 9 soft tissue injuries without fractures, 8 convexity fractures, and 3 facial fractures. The other classic signs of basal skull fracture (Battle's sign, hemotympanum, cerebrospinal fluid otorrhea, cerebrospinal fluid rhinorrhea) were observed in 3, 7, 1, and 3 patients with PE, respectively. The most common clinical feature associated with PE was cranial nerve injury, observed in 10 patients. Surgical intervention was required in 8 patients. Five patients were discharged to a rehabilitation centre. No meningitis, cerebral abscess, encephalitis or deaths were observed.

This series shows that PE can be associated with a variety of clinical features, is rarely accompanied by other classic signs of basal skull fracture, and most patients with PE do not have injuries severe enough to require surgical intervention or post-discharge rehabilitation ¹⁾

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Somasundaram A, Laxton AW, Perrin RG. The clinical features of periorbital ecchymosis in a series of trauma patients. *Injury*. 2014 Jan;45(1):203-5. doi: 10.1016/j.injury.2013.09.010. Epub 2013 Sep 20. PubMed PMID: 24095269

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