Pharyngeal injuries caused by trauma are common in medical practice, in particular in an emergency medical setting. The typical history is of a sharp object held in the patient’s mouth causing an injury after a sudden movement. It is most often seen in paediatric patients. A significant injury however should be suspected even when there is only minor evidence of injury present to the oropharynx. Patients can present with minimal signs and symptoms. There are potential fatal complications such as vascular injuries and infection. We report a case of a penetrating injury causing collection of air in the retropharyngeal space.

CASE HISTORY
A 28 year old female patient presented to the department of otolaryngology after referral by the accident and emergency unit. She described an accidental penetrating injury to her soft palate. She had been holding a metallic curtain railing in her mouth when she bent down. The metal object penetrated her soft palate on the right side. She complained of pain in her mouth and along her right neck. She also admitted to odynophagia but denied any dysphagia. She described a “popping” sound when she swallowed. Mild bleeding from the site of injury was present. The patient was otherwise well with no significant medical problems.

On examination of her oropharynx, there was a small laceration measuring 0.5 cm present in the soft palate on the right side. There was no evidence of bleeding from the wound or surgical emphysema in the neck. She was afebrile with a normal blood pressure and pulse rate.

Lateral soft tissue radiography of her neck showed retropharyngeal air (fig 1).

Treatment was started with intravenous fluids and antibiotics (cefuroxime and metronidazole). She was made nil by mouth. The following day repeat soft tissue radiography showed mild reduction of the retropharyngeal air. A fine bore nasogastric feeding tube was inserted and enteral feeding started.

After three days repeat lateral soft tissue films showed complete resolution of the retropharyngeal air. The patient was restarted with oral feeding and discharged soon afterwards. She was completely asymptomatic when reviewed two weeks later in clinic. No further follow up was arranged.

DISCUSSION
Injuries to the palate are commonly reported and are not normally harmful. The cause is usually trauma to the oropharynx by objects held in the mouth. Sharp objects may however perforate the soft palate and cause collection of retropharyngeal air if sufficient force is delivered. Physical evidence of injury may only be mild. Foreign bodies may become trapped and can require surgical exploration for extraction. Blunt external trauma if of sufficient force may also cause pharyngeal tears. Other causes of pharyngeal perforation include instrumentation and endotracheal intubation. There are also reports of retropharyngeal air collecting after dental procedures. This has been attributed to extraction of teeth and the use of compressed air in dental drills and syringes. Retropharyngeal air accumulation can also be spontaneous, it has been reported in patients suffering with asthma. Occult perforation may occur in the absence of any obvious clinical signs. Lateral soft tissue radiographs are invaluable in diagnosing retropharyngeal air accumulation and soft tissue swelling. Such radiographs should be performed routinely in all clinical cases as the perforation may be otherwise undetectable by physical examination alone.

There are potential serious complications such as vascular injury to the carotid arteries or infection such as mediastinitis and abscess formation. Clinical features include chest pain, rigors, shortness of breath, systemic upset, dysphagia, and pleural effusion. Pus can accumulate in the chest cavity. Mediastinitis when established has a recognised high mortality rate. Air can also tract inferiorly to cause a pneumomediastinum.

The treatment of retropharyngeal air with no other complications is conservative with administration of...
intravenous prophylactic broad spectrum antibiotics that reduces the risk of sepsis. Patients usually respond well to these measures. We used nasogastric feeding to preserve nutritional status. This is beneficial in patients where oral feeding is contraindicated for longer than a few days because of persistence of retropharyngeal air or other associated factors. Surgical intervention such as drainage of abscesses or air may sometimes be required in patients.

In conclusion, early and accurate diagnosis of penetrating soft tissue injuries is very important to avoid potential complications. As such emergency cases present at the accident and emergency department, close liaison between the accident and emergency staff and ENT surgeons is vital. A high index of suspicion should be adopted in cases of oropharyngeal trauma even when the clinical features appear mild. Conservative management that entails prophylactic antibiotics is usually sufficient to effect a complete resolution of the retropharyngeal air.

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**Accessory ossicle or intraepiphyseal fracture of lateral malleolus: are we familiar with these?**

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A case of intraepiphyseal injury (type 7) to the lateral malleolus in a 11 year old child is described. This rare injury cannot be classified by commonly used Salter Harris classification for epiphyseal injury. Although less common, accessory ossicle of the malleoli is an important differential diagnosis for such injury. Details of type 7 intraepiphyseal injuries and accessory ossicle are described.

An 11 year old child presented to an accident and emergency department after a fall from a bicycle, sustaining injury to the ankle. There was no history of previous injury to this ankle joint. The patient had pain over the lateral aspect of the ankle and clinical examination revealed swelling and tenderness over the lateral malleolus without any abnormality over the medial side of the joint. The lateral ligament complex, medial malleolus, ankle joint, and rest of the foot were normal on clinical and radiological examination. Radiographs showed intraepiphyseal injury of the distal fibular epiphysis (fig 1). The ankle was splinted in a below knee cast and the patient was permitted partial weight bearing. Three months after the injury there was no tenderness over the lateral malleolus and radiographs showed union across the fracture site (fig 2).

**DISCUSSION**

The most widely used classification for epiphyseal injuries is the one proposed by Salter and Harris in 1963. Although it is comparatively concise and of clinical importance, certain types of epiphyseal and physeal injuries cannot be readily classified with this system. John Ogden devised a more inclusive classification scheme in 1981, where he described up to nine different types of injury to the growth mechanism of the immature skeleton.1

**Type 7 epiphyseal injury**

Distal fibular epiphyseal injury is commonly either Salter-Harris type I or type II injury. Type 7 (intraepiphyseal) injuries are less common, occurring as a result of supination inversion injury to the ankle joint.1 Although this injury is described in the literature, no major series of epiphyseal injuries specifically mention it.

Type 7 epiphyseal injuries, as described by Ogden,1 are intraepiphyseal injuries and represent propagation of the fracture from the articular surface through the epiphyseal cartilage into the secondary ossification centre. Unlike other types of epiphyseal injuries they do not involve primary

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**REFERENCES**


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**Figure 1** Radiograph showing intraepiphyseal injury of the distal fibular epiphysis.