Childhood epistaxis
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A 6-year-old boy attends with his mother, who says he has been suffering from recurrent nosebleeds, affecting either side of the nose and occurring twice a week for 6 months.

What you should cover in the history
Nosebleeds are very common in children, affecting 30% of children aged 0–5, 56% of those aged 6–10 and 64% of those aged 11–15.1 In most cases, the problem is simple to diagnose and treat.
• Any history of unexpected bruising or bleeding from other sites (e.g. bleeding gums)? It is rare for severe haematological disorders such as leukaemia to present with epistaxis as the sole complaint, but a history of excessive bleeding after minor trauma should raise the possibility of a haematological disorder such as von Willebrand disease. Studies suggest as many as 5–10% of children with recurrent nosebleeds despite treatment may have undiagnosed von Willebrand disease.2,3
• Is the problem unilateral or bilateral? Are there any associated nasal symptoms such as blockage, discharge or pain? Tumours are rare, but unilateral symptoms in association with facial swelling, pain and obstruction are suspicious. The head and neck is the commonest site of rhabdomyosarcoma in children. Juvenile nasal angiofibroma presents with nasal obstruction and epistaxis in adolescent boys.
• Is there any history of trauma?
• Is the child on medications? Anticoagulant use in children is rare, except in those with congenital heart disease.
• Does the child have any allergies? It is important to ask about allergy to peanuts if you plan to prescribe an antiseptic cream such as Naseptin, which is made from peanut oil.

What you should cover on examination
Simple inspection with an otoscope allows good light and a magnified view of the anterior half of the nasal cavity without distressing the child. Most children are used to having their ears examined and find an otoscope non-threatening, whereas headlights and endoscopes are unfamiliar.
• Crusting on the mucosa of the anterior septum is the most common examination finding, being present in two-thirds of children with nosebleeds.4 It is postulated that the crusting is a result of low-grade inflammation due to nasal carriage of staphylococci. Bleeding may be a direct result of inflammation, or secondary to digital trauma due to the irritating presence of crusts.
• Visible vessels on the anterior septum are present in 40–50% of children with nosebleeds.4,5 Studies have shown that, in children with unilateral symptoms, the visible vessels almost always occur on the side that is reported to bleed and are uncommon on the other side,4,5 providing circumstantial evidence that they are, in fact, the cause of the problem and not just a chance finding.
• Tumours and pyogenic granulomas should be apparent on examination. Polyps are rare in children, except those with cystic fibrosis. Even when present, polyps rarely bleed and so are suspicious in the child with epistaxis.

What treatment you should offer
• Full blood count and coagulation studies are not required routinely but should be considered for children with recurrent nosebleeds despite treatment, or where there are suspicious features in the history. A referral to haematology may be helpful.
• Antiseptic cream such as Naseptin is all that most children require. Children with crusting but no visible vessels are most likely to benefit from treatment with cream. A randomised controlled trial of 103 children showed that 4 weeks treatment with cream is effective (relative risk reduction 47%, absolute risk reduction 26%, number needed to treat 3.8).4 Petroleum jelly (Vaseline) has been shown to be ineffective,5 suggesting that antiseptic and not just emollient effects are required. For cream to be effective, it needs to be applied properly. Parents should be instructed not to attempt to insert the cream with a fingertip or a cotton bud, but just to insert the tip of the nozzle of the tube in the child’s nostril and squirt a generous amount directly on the affected area.
• Silver nitrate cautery under topical anaesthesia is a very common treatment that appears anecdotally to be effective. It seems sensible when there are visible vessels on the septum. If crusting is the only finding, cautery is likely just to make this worse. Children do not like having anaesthetic sprayed into the nose but will almost always tolerate a small cotton wool ball soaked in co-phenylcaine or 4% lignocaine solution (never the throat spray as this stings) being placed in the nostril and left for 5 min. Silver nitrate cautery can be accomplished quickly with minimal discomfort. After cautery, it is usual to prescribe some antiseptic cream to reduce the inevitable crusting that ensues and thereby reduce the chances of further bleeding. The evidence supporting the efficacy of cautery is conflicting. A randomised controlled trial of silver nitrate cautery alone versus Naseptin showed both to be equally effective with a complete resolution rate of 54%. However, just blindly cauterising or prescribing cream for all-comers regardless of the examination findings does not reflect clinical practice and could bias results by worsening crusting in those for whom crusting is the primary cause of the problem. The only other study to address this issue was a small randomised controlled trial that compared the efficacy of Naseptin alone with Naseptin and silver nitrate cautery together. The study concluded that the combined treatment has no advantage over Naseptin alone. However, the study was small, not blinded and conducted on a mixed population including many adults (up to 88 years old – epistaxis in adults is a completely different disease, usually associated with anticoagulant use and hypertension, and with bleeding points located posteriorly on the lateral nasal wall rather than on the anterior septum as in children).

• Cautery under general anaesthesia is rarely required as even the youngest children will usually cooperate with cautery under topical anaesthesia if the doctor is gentle and reassuring. It may be appropriate if another operation is to be performed at the same time.

• Imaging (MRI, angiography), endoscopic examination under anaesthesia and biopsy all have their place in the investigation of suspected tumours along with specialist referral.

• Children on chemotherapy or with leukaemia will often have refractory epistaxis due to thrombocytopenia. Cautery is ineffective and often makes the situation worse, while packs eventually have to be removed at which point bleeding usually recurs. The simplest treatment in these circumstances is to gently pack the nose with a haemostatic agent (such as Kaltostat) that does not require removal. The role of platelet transfusion needs to be discussed with the haematologist.

• Parents (and health-care staff) are often poorly informed about effective first-aid manoeuvres for epistaxis so a quick demonstration of the Hippocratic method for arresting a nosebleed (pressure on the soft part of the nose to apply pressure to the septum) is very worthwhile.

Key References

References were identified from the author’s personal library and from a computerised literature search (Ovid, Medline) using relevant keywords, last performed 3 May 2006.

1 Petruson B. (1979) Epistaxis in childhood. Rhinology 17, 83–90