

Paediatric Rhinosinusitis Handout

Combined Scotland Paediatric Study Day · Perth · 28 October 2026

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Teaching points

- **Development:** ethmoid and maxillary sinuses at birth, sphenoid at about 9 months, frontal after 5 on MRI ([Adibelli 2011](#)) *slide 3*
- **History and examination:** ask the child and the carer; lift the tip or use an otoscope; nasendoscopy in clinic from about 3 *slide 6*
- **Chronic rhinosinusitis, rhinitis and polyps:** chronic rhinosinusitis is treated with saline and an intranasal steroid, then adenoidectomy, then FESS; allergic rhinitis in steps from saline to an intranasal steroid; bilateral polyps, a sweat test ([Brietzke 2008](#)) *slides 9 to 16*
- **Acute rhinosinusitis:** acute bacterial rhinosinusitis is diagnosed on three presentations without imaging ([Wald 2013](#)) *slides 17 and 18*
- **Complications:** contrast CT or MRI for a suspected orbital or intracranial complication; concurrent ENT and neurosurgical intervention was associated with less recurrence and revision neurosurgery in one cohort; no difference in other series ([Sexton 2022](#); [Milinis 2023](#); [Zhou 2026](#)) *slides 19 to 33*
- **Nasal trauma and the septum:** examine for a septal haematoma at every contact and drain it; cartilage sparing septoplasty; septorhinoplasty at nasal maturity; under 16 the attending doctor judges the child's capacity to consent ([van der Heijden 2008](#); [1991 Act, s2\(4\)](#)) *slides 34 to 49*
- **The cleft nose:** rhinoplasty and septoplasty at lip repair were not found to restrict growth, and definitive septorhinoplasty follows correction of the skeletal base ([Zelko 2023](#); [Bins 2024](#); [Pawar 2014](#)) *slides 50 to 54*

By age

Under 2	• Maxillary and ethmoid sinuses at birth, the sphenoid at 9 months, on MRI (Adibelli 2011) • Children under about 2 years cannot produce antibody to bacterial capsular polysaccharides (Rijkers 1998) • Septal cartilage adult sized in area by about 2 (van Loosen 1996) • A septal haematoma or abscess before walking age should prompt suspicion of non accidental injury (Ghadersohi 2020) • In the UK the lip is repaired at a median of 4.3 months (Fell 2023)
2 to 5	• Young children have about 6 to 8 colds a year (Heikkinen 2003) • Flexible nasendoscopy was completed without restraint in 86 per cent of 110 children aged 3 to 10 in one NHS clinic (Narang 2022) • Adenoidectomy is an effective first line surgical procedure for children up to 6 years (strong consensus) (Brietzke 2014) • On CT volumetry frontal air first appeared in one boy aged 2 to 3 and in over half the children after 4 (Ayaz 2026)
6 to 11	• On CT a frontal sinus was present at 6 years in 23 per cent of boys and 33 per cent of girls (Spaeth 1997) • The adenoid peaks at about 6 to 8 years (Perry 2022; Yoon 2026) • Adenoidectomy is first line surgery to age 12; FESS follows if medicines or adenoidectomy fail (Brietzke 2014) • Children with orbital complications were younger than those with intracranial complications, at 8.6 against 12.4 years (Levy 2020) • In children under 9 with none of nine criteria, 27 of 29 (93.1 per cent) subperiosteal abscesses cleared on intravenous antibiotics (Garcia 2000) • MRI in addition in children over 7 years with a risk factor for intracranial disease (Herrmann and Forsen 2004) • Peak nasal inspiratory flow from about 6, read against paediatric values (van Spronsen 2012) • The alveolar bone graft is done at 8 to 10 years (Scott-Brown)
12 to 16	• On CT a frontal sinus was present at 12 in 86 per cent (Spaeth 1997) • The nasal growth spurt ends at 13.1 years in girls and 14.7 in boys, and 98 per cent are nasally mature at 15.8 and 16.9 (van der Heijden 2008) • Girls: at least a year past menarche with stable growth (Chauhan 2010) • My practice for cosmetic surgery is 16 in girls and 18 in boys; for functional surgery I operate earlier when the obstruction is severe, on a case by case basis • Definitive cleft septorhinoplasty follows correction of the skeletal base, usually at 14 to 16 years in girls and 16 to 18 in boys (Pawar 2014) • Under 16 the attending doctor judges capacity; a parent cannot override a competent child; at 16 an adult (1991 Act, s2(4); GMC 0 to 18, paragraph 31)

Children and adults

	Children	Adults	Source
Chronic rhinosinusitis, definition	cough	reduction or loss of smell	EPOS 2020
Chronic rhinosinusitis, how common	a diagnosis rate of up to 4 per cent	10.9 per cent by symptoms	EPOS 2020 ; Hastan 2011
Colds a year	about 6 to 8 (young children)	2 to 4	Heikkinen 2003
Eosinophil aggregates at FESS	4.0 per cent of 50 children	22.8 per cent of 378 adults	Brown 2023
Severe complication of acute rhinosinusitis (Netherlands)	about 1 in 12,000 episodes	1 in 32,000 episodes	Hansen 2012
Orbital cellulitis in Scotland, a year	1.6 per 100,000	0.1 per 100,000	Murphy 2014
Revision after septoplasty (US claims)	2.9 per cent of 24,322 (mean age 15.7)	1.1 per cent	Shah 2022
Revision operation a rhinoplasty	9.4 per cent of revised children	5.3 per cent of revised adults	Shah 2022
Consent	under 16, the attending doctor judges capacity	at 16, consents as an adult	1991 Act, s2(4)

Teaching points are the hour's summary slide. Every figure is from the slides and speaker notes; the reference pack lists each source in the order taught.

Reference pack, the twelve SBAs with answers, and this handout: jcitalia4.github.io/paeds-rhino