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2013

Commissioning guide:

Pinnaplasty

Sponsoring organisation: **British Association of Plastic, Reconstructive and Aesthetic Surgeons**
Date of evidence search: **May 2013**
Date of publication: **November 2012**
Date of review: **November 2015**

NICE accredited
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Introduction

This guide refers to pinnaplasty surgery and cartilage moulding techniques for the treatment of prominent ears.

Pinnaplasty surgery and cartilage moulding techniques are methods of correction of prominent ears. Ear prominence is very common and can lead to low self-esteem, bullying and significant psychological morbidity, particularly in childhood and adolescence.

- Cartilage moulding devices are advised in infants up to 6 months of age.
- Surgery in the National Health Service (NHS) should be available for children with prominent ears.
- Psychological distress in children and adolescents with prominent ears is significant and corrective surgery can help to resolve these issues.
- It is recommended that surgery is only offered to children above 5 years of age and under 18 years of age. Children under the age of 5 years are less likely to tolerate the procedure well or be compliant with dressings care. Psychological distress is unlikely to have developed prior to the age of five and surgery can therefore be delayed until later.
- Surgery below the age of 5 years should only be offered if correction of prominence will help in retaining hearing aids securely, in children for whom they are required.
- NHS surgery for prominent ears should not be offered to adults over the age of 18 years.

1 High value care pathway for pinnaplasty

1.1 Primary care

Referral to a specialist for consideration of treatment for ear prominence, whether surgical or using cartilage moulding devices, should be offered by general practitioners (GPs) as follows:

Infants up to 6 months of age

Cartilage moulding devices are advised in infants up to 6 months of age.[1,2] When they are correctly applied and well tolerated, they can reduce ear prominence. They are most effective in the neonatal period, during which time the cartilage is malleable. Their effectiveness declines in time and they should therefore be applied as early as possible. The avoidance of surgery at a later date is a clear benefit for the individual. Their cost being significantly less than that of surgery is also of importance.
Information should be provided by those advising the parents of babies (GPs, health visitors etc) (for example, at the time of their first hearing test)[3] of the availability of such devices.

Children between 5 years of age and under 18 years of age

For children with ear prominence over the age of 5 and under 18 years of age, referral to a specialist should be offered. Prominence is caused by one or all of several anatomical factors. The angle of the anti-helical fold is responsible for the degree of prominence of the upper pole of the ear; in those with a soft anti-helical fold, the ear is more prominent. The depth of the conchal bowl also varies between individuals, as does the angle the bowl makes with the head. These anatomical factors should be assessed by the referring physician in determining whether the ears or part of the ear appear prominent. Each of these factors can be addressed surgically.[4–6]

It is important that it is the child who desires surgical correction; referral should not be made for children who appear indifferent or opposed to the idea of surgery. Parents requesting surgery for their child in order to prevent psychological distress when their child starts school or at some time in the future should be advised that referral should wait until their child specifically requests treatment.

1.2 Secondary care

The degree of ear prominence is highly variable between individuals. It also varies within individuals at different ages in childhood. In some cases, certain parts of the ear (eg the upper pole) might be considered prominent with the rest of the ear not being so. The decision to offer surgery should therefore be at the discretion of the consultant surgeon. Children referred to a clinic must confirm their desire for surgery to take place. Written information in the form of leaflets describing the surgery, its aims, benefits, risks and complications could also be provided at the initial outpatient appointment.

Surgery should not be offered to children under five years of age under normal circumstances for the reasons

described above. In occasional cases, surgery may be considered, for example in those children for whom a hearing aid is required and when this will be better supported following a correction of ear prominence.[7]

Prominence of the ears is associated with bullying and significant psychological distress. Surgery can be highly effective in helping to resolve these issues.[8] In individuals in whom preoperative distress is high, psychological therapy, whether or not subsequent surgery is offered, should be provided.

Surgery for prominent ear correction should be consultant led. It is advised that consultants performing pinnaplasty should perform at least ten cases a year. This may mean that in some departments, one or two surgeons are nominated as pinnaplasty surgeons for the unit.

Patients should expect surgery to provide successful correction of ear prominence. Where complications occur, these should be recorded. Complication rates for haematomas, infection, recurrence of prominence and deformity should be low. *Readmission rates within 30 days and reoperation rates within 30 days should be 1% or lower. (See dashboards for clinical commissioning group (CCG) means in Section 3.)*

Where revision surgery is required after a recurrence of prominence, surgery must be consultant led but not necessarily performed by a consultant.

If deformity has resulted from a pinnaplasty procedure, revision pinnaplasty should in most cases be performed by a specialist in ear reconstruction as such surgery is complex.[9,10]

In every case where a significant structural component of the ear requires reconstruction and a graft of cartilage is required, the surgery should always be performed by a specialist ear reconstruction surgeon.

Follow-up for these patients should be routine practice and should consider the physical, emotional and psychological changes resulting from the surgery. Long-term follow-up (3–6 months postoperatively) should always be offered.

2 Procedures explorer for pinnaplasty

Users can access further procedure information based on the data available in the quality dashboard to see how individual providers are performing against the indicators. This will enable CCGs to start a conversation with providers who appear to be ‘outliers’ from the indicators of quality that have been selected.

The procedures explorer tool is available via the Royal College of Surgeons website.

3 Quality dashboard for pinnaplasty

The quality dashboard provides an overview of activity commissioned by CCGs from the relevant pathways and indicators of the quality of care provided by surgical units.

The quality dashboard is available via the Royal College of Surgeons website.

4 Levers for implementation

4.1 Audit and peer review measures

The following measures and standards are those expected at primary and secondary care. Evidence should be made available to commissioners if requested.

	Measure	Standard
Primary care	Data collection	Providers collect data on pinnaplasty procedures undertaken, length of stay, complications and readmissions.
	Referral patterns	Ensure that referrals of patients outside the specified age group are not referred (except in the circumstances described above).
Secondary care	Psychological and emotional impact of surgery	Postoperative psychological review

4.2 Quality specification/CQUIN

Measure	Description	Data specification (if required)
Haematoma rate	Number of cases returning to theatre to treat a postoperative haematoma within the primary admission	Data available from Hospital Episode Statistics (HES)
Readmission rate	Number of cases readmitted with a complication within a month of primary surgery	Data available from HES

5 Directory

5.1 Patient information for pinnaplasty

Name	Publisher	Link
Prominent ears	Patient.co.uk	http://www.patient.co.uk/doctor/prominent-ears.htm
Ear reshaping	NHS Choices	http://www.nhs.uk/conditions/ear-reshaping/
Ears – patient information guide	BAPRAS	http://www.bapras.org.uk/resources/plastic_surgery_information_guides/ears#guide_20

5.2 Clinician information for pinnaplasty

There are no known links to high quality clinical guidelines/decision support tools for pinnaplasty.

6 Benefits and risks of implementing this guide

Consideration	Benefit	Risk
Patient outcome	Ensure access to effective conservative and surgical therapy Ensure access to appropriate psychological intervention	
Patient safety	Reduce complication rates	
Patient experience	Ensure consultant supervision of surgery	
Equity of access	Avoid geographical variations in referral patterns	
Resource Impact	Reduce the number of referrals for surgery outside the 5–18 years age group	

7 Further information

7.1 Research recommendations

Research to determine and to compare the complication rates of the commonly used techniques of prominent ear correction (anterior scoring vs suture techniques) is encouraged.

7.2 Other recommendations

- Development of patient reported outcome measures including psychological outcomes
- Development of high quality clinical guidelines/decision support tools

7.3 Evidence base

Evidence-based studies of pinnaplasty techniques are encouraged.

1. van Wijk MP, Breugem CC, Kon M. A prospective study on non-surgical correction of protruding ears: the importance of early treatment. *J Plast Reconstr Aesthet Surg* 2012; **6**: 54–60.
2. Ullmann Y, Blazer S, Ramon Y *et al*. Early nonsurgical correction of congenital auricular deformities. *Plast Reconstr Surg* 2002; **109**: 907–913.
3. Petersson RS, Recker CA, Martin JR *et al*. Identification of congenital auricular deformities during newborn hearing screening allows for non-surgical correction: a Mayo Clinic pilot study. *Int J Pediatr Otorhinolaryngol* 2012; **76**: 1,406–1,412.
4. Furnas DW. Correction of prominent ears by conchamastoid sutures. *Plast Reconstr Surg* 1968; **42**: 189–193.
5. Mustarde JC. Correction of prominent ears using simple mattress sutures. *Br J Plast Surg* 1963; **16**: 170–178.
6. Horlock N, Misra A, Gault DT. The postauricular fascial flap as an adjunct to Mustardé and Furnas type otoplasty. *Plast Reconstr Surg* 2001; **108**: 1,487–1,490.
7. Gault D, Grob M, Odili J. Pinnaplasty: reshaping ears to improve hearing aid retention. *J Plast Reconstr Aesthet Surg* 2007; **60**: 1,007–1,012.
8. Cooper-Hobson G, Jaffe W. The benefits of otoplasty for children: further evidence to satisfy the modern NHS. *J Plast Reconstr Aesthet Surg* 2009; **62**: 190–194.
9. Firmin F, Sanger C, O'Toole G. Ear reconstruction following severe complications of otoplasty. *J Plast Reconstr Aesthet Surg* 2008; **61**: S13–S20.
10. Szychta P, Orfaniotis G, Stewart KJ. Revision otoplasty: an algorithm. *Plast Reconstr Surg* 2012: **130:** 907–916.
11. Mandal A, Bahia N, Ahmad J. Comparison of cartilage scoring and cartilage sparing techniques in unilateral otoplasty – A study of 203 cases. *J Plast Reconstr Aesthet Surg* 2006; **63**: 1,170–76.
12. Schaverien MV, Al-Busaidi S, Stewart KJ. Long-term results of posterior suturing with postauricular fascial flap otoplasty. *J Plast Reconstr Aesthet Surg* 2010; **63:** 1,447–51.

13. Szychta P, Stewart KJ. Comparison of cartilage scoring and cartilage sparing techniques in unilateral otoplasty: a ten-year experience. *Ann Plast Surg* 2013; **71:** 522–27.

7.4 Guide development group for pinnaplasty

A commissioning guide development group was established to review and advise on the content of the commissioning guide. This group met once, with additional interaction taking place via email.

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Greg O'Toole	Consultant Plastic Surgeon	Chair, BAPRAS
Walid Sabagh	Consultant Plastic Surgeon	BAPRAS
David Gault	Consultant Plastic Surgeon	BAPRAS
Tim Woolford	Consultant ENT Surgeon	ENT UK
Alexandra Clarke	Consultant Clinical Psychologist	British Psychological Society
Nick Price	Patient Representative	Royal College of Surgeons Patient Liaison Group
Kathryn Giles-Bowman	Patient Representative	
David Baron	General Practitioner	
Steve Lloyd	Commissioner	Hardwick CCG

7.5 Funding statement

The development of this commissioning guidance has been funded by the following sources:

- Right Care funded the costs of the guide development group, literature searches and contributed towards administrative costs.
- The Royal College of Surgeons of England and the British Association of Urological Surgeons provided staff to support the guideline development.

7.6 Conflict of interest statement

Individuals involved in the development and formal peer review of commissioning guides are asked to complete a conflict of interest declaration. It is noted that declaring a conflict of interest does not imply that the individual has been influenced by his or her secondary interest. It is intended to make interests (financial or otherwise) more transparent and to allow others to have knowledge of the interest.

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Name	Position	Declared interest
David Gault	Consultant Plastic Surgeon	Director, Ear Buddies