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Cochlear implant surgery

Costing Approach learning extension (formerly CA2)

Version 1, March 2022

Cochlear implant surgery

Purpose: To ensure cochlear implant surgery is costed in a consistent way.

Objective

1. To improve the quality of cost data for cochlear implant surgery.

Scope

2. This standard covers the costing of the inpatient episode only.

3. Take care to ensure the costs of assessment and aftercare are identified and separated appropriately.

Overview

4. A cochlear implant is an electronic device that may help children and adults who do not benefit sufficiently from conventional hearing aids. Conventional hearing aids work by making sounds louder. A cochlear implant turns sounds into tiny electrical pulses that are sent direct to the hearing nerve.

5. NHS England has produced a national service specification for possible care pathways and minimum service requirements. Further guidance on recommended care pathways is given in the British Cochlear Implant Group's quality standards for both adults and children and young people.

6. Based on NHS England's specification, the overall care pathway is normally divided into:

- assessment of suitability for implant
- inpatient episode (including the procedure)
- aftercare, continuing care and rehabilitation.

7. The inpatient episode normally consists of:

- preoperative assessment
- surgery
- other intraoperative testing and procedures when clinically necessary
- postoperative care:
  - overnight stay of one night (if not a day case)
  - antibiotics
  - at least one X-ray
  - the consultant may or may not assess the patient once on the ward; you need to establish this in discussions with clinical and service leads.
- There will be input from the audiology department to test the hearing after surgery. Audiology will also be involved in the ongoing care of the implant, battery changes and regular follow up care.

Approach

8. Work with the cochlear implant service to map the care pathways to inform the costing process.

9. Establish whether the patient pathway for children and young people is different from that for adults. If it is, this should be reflected in the costs, for example:

- additional pain relief
- different theatre staffing, eg paediatric nurses
- different ward staffing, eg additional paediatric staff not normally held in the ward cost centre
- paediatric specialist input before discharge.

Identifying the activity

10. There are two procedure codes[1] for implanting cochlear implants: D241 (implantation of intracochlear prostheses) and D242 (implantation of

[1] Please work with your clinical coding team to identify the codes used in your organisation for this activity.

extracochlear prostheses). These group to two healthcare resource groups (HRGs):

- CA42Z Unilateral cochlear implant
- CA41Z Bilateral cochlear implants.

11. There are other procedure codes[6] for attention to (D243) or removal of (D246) a cochlear prosthesis. These group to other HRGs in the CA chapter (eg major or intermediate ear procedures).

12. Cochlear implant surgery activity is recorded on Feeds 1a, 1b and 1c, admitted patient care (APC).

13. Devices and implants, ward stay, diagnostics, theatres and medicines are recorded on the patient-level feeds.

14. Specialist nursing is recorded on Feed 7: Supporting contacts[2].

15. Table CA2.1 is an excerpt[3] from Spreadsheet CP3.3 showing the resource and activity links to use for cochlear implant surgery.

Identifying the costs

16. Identify with finance colleagues all costs directly associated with the procedure for the devices and implants

Devices and implants

17. Devices should be reported on Feed 15: Prostheses and high-cost devices. See Standard IR1: Collecting information for costing for more information, and Standard CM21: Clinical non-pay items.

19. Device costs make up the bulk of the episode costs and vary greatly depending on the supplier. Costs of cochlear implant devices must be included in the relevant HRGs for costing purposes even if they are currently excluded from national prices. Costs submitted against cochlear implant

[2] Supporting contacts is a superior method.
[3] Please note all excerpts in this standard are for illustrative purposes only. Use Spreadsheet CP3.3 to ensure you are using all the correct resource and activity links.

HRGs should cover the external processor (which may be activated later) as well as the cochlear implant itself.

18. Some device costs may sit with another organisation, eg where the provider works with a research body. If there is no cost for the device, you should flag the episode with the ‘part cost flag’[4] in the costing system, and in any reports/submissions of cost of cochlear implants. We do not wish you to obtain the cost of the implant if it sits outside your organisation.

19. If the device fails and is under warranty and within the appropriate terms and conditions, the manufacturer covers its costs. The NHS picks up the cost of the procedure and follow-up care only. If this scenario is identified, you should ensure this is flagged in any reports/submissions of cost of cochlear implants.

20. Ensure you have accurately identified the device costs at patient level. In the general ledger they may be shown in theatres or audiology rather than ENT or paediatric ENT . If these costs are not identified properly, they can be incorrectly allocated, and unit costs of cochlear implants will be greatly understated.

21. When reviewing the information on Feed 15: Prostheses and high-cost devices, and the cochlear implant PLICS output information, ensure that the devices allocated to patients correctly reflect unilateral and bilateral surgical procedures.

[4] See Standard IR1: Collecting information for costing for more information about the ‘part cost flag’.

Table CA2.1: Excerpt from Spreadsheet CP3.3 showing an example of the resource and activity combinations for cochlear implant surgery inpatient costs

	Activity								
Resource	**Insertion or fitting of a prosthesis, implant or device**	**Theatre care - general**	**Theatre – surgical care**	**Theatre – anaesthetic care**	**Theatre – recovery care**	**Ward care**	**Dispense non patient-identifiable medicines**	**X-ray**	**Supporting contact 1:1 inpt unit**
Medical and surgical consumables		£X		£X		£X		£X	
Operating department practitioner		£X			£X				
Consultant – anaesthetist				£X	£X				
Prostheses, implants and devices	£X								
Audiologist									£X
Speech and language therapist									£X

Medical staff

22. Patients are not routinely seen by their consultant on the ward following the procedure; therefore, no costs need to be allocated for this. But as care pathways differ between providers it is important to confirm this in discussions with the service.

Diagnostic imaging

23. Patients are normally X-rayed at least once following the procedure. This is recorded on Feed 12a: Diagnostic imaging, and should be matched to the patient event where the image was taken.

Other healthcare professionals

24. Depending on the care pathway, other healthcare professionals may contribute to care, including the surgical procedure. These may include but are not limited to:

    - specialist nurses – use resource ID: SLR082; Specialist nurse
    - clinical scientists – use resource ID: CLR017; Clinical scientist
    - audiologists – use resource ID: MDR039; Audiologist
    - speech and language therapists – use resource ID: THR007; Speech and language therapist.

25. You should ensure these staff group costs are disaggregated to allocate them appropriately to the procedure. As a superior method, the activity for these staff groups should be included in Feed 7: Supporting contacts, and matched to the correct patient episode using the prescribed matching rules in Spreadsheet CP4.1.

Other considerations

26. Assessment and aftercare require considerable input from several staffing groups, making counting and costing complex. You would expect to see a longer duration and higher cost than a standard outpatient consultation for these non-admitted patient care events.

27. Assessment may involve input from the cochlear implant team, ENT surgeon, clinical scientists, audiologists, medical physicists (for electrophysiological assessment), speech and language therapists, clinical psychologists, radiologists (CT/MRI) and other specialists such as paediatricians, geneticists, and neurologists.

28. A similar range of professionals may contribute to a patient's aftercare. There will be considerable review during year 1 (and to a degree in years 2 and 3 for children), and the patient will be offered regular reviews thereafter (at least annually). This includes ongoing support and maintenance (eg repairs/spares).

29. The external device will be upgraded every five years (on average).

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