Clinical Criteria – CPT® 21230 Graft; rib cartilage, autogenous, to nose or ear (includes obtaining graft)

Subject: 21230 Graft; rib cartilage, autogenous, to nose or ear	**Renewed Effective:** 10/1/25
	Review Schedule: Annual

Purpose: define medically necessary indications, documentation requirements, and denial reasons for autologous rib (costal) cartilage grafting (CPT 21230) for children and adolescents up to age 19.

Quick summary

CPT 21230 (autologous rib cartilage graft to face/chin/nose/ear — includes obtaining the graft) may be covered when used to repair or reconstruct congenital or acquired deformity that causes functional impairment or significant, documented psychosocial disability, and when less-invasive alternatives are inappropriate or exhausted.

Definitions / scope

- Procedure covered: Autogenous costal (rib) cartilage harvest and grafting to reconstruct the outer ear (auricle), nasal framework (including major saddle or traumatic deformities),

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Clinical Criteria

1. Microtia / congenital auricular deformity
    - Autologous rib cartilage reconstruction for microtia is medically necessary when:
        - The child has congenital absence or severe deformity of the auricle (microtia) and reconstruction is recommended by a craniofacial/plastic surgery team and the child has undergone multidisciplinary evaluation (ENT/audiology, plastic surgery, psychosocial).
        - The surgeon documents that autologous costal cartilage reconstruction is the chosen technique (versus porous polyethylene or prosthetic options) and that sufficient donor cartilage is available (clinical assessment or imaging as indicated).
2. Nasal framework reconstruction with functional impairment
    - Post-traumatic, post-oncologic, or severe congenital nasal deformities causing airway obstruction, recurrent sinus disease attributable to structural defect, or inability to use/fit prosthetic/less invasive repair where rib cartilage grafting is required to restore nasal form and function. Documentation must show objective or clinician-documented functional impairment. journals.sagepub.com+1
3. Revision surgery
    - Revision using autologous rib cartilage may be medically necessary when prior reconstruction/implant has failed or produced complications (exposure, infection, structural collapse) and revision with autologous tissue is clinically indicated. Document prior surgery, complications, and why revision is required.

Coverage—Age considerations and timing

- General: Autologous rib cartilage harvest is commonly performed in school-aged children and adolescents when the chest wall/cartilage is sufficient to provide a framework without unacceptable donor-site morbidity. Published practice commonly recommends starting between ~6–10 years, with many centers favoring 7–10 years and some evidence/consensus suggesting optimal timing ~10 years or older depending on rib size/technique and individual anatomy. Surgical timing should be individualized and documented by the surgeon (growth/size assessment, psychosocial impact).
- Younger than typical threshold: Coverage for children younger than the center's usual minimum (e.g., <6–7 years) may be allowed only with clear surgeon justification and documented evidence that adequate costal cartilage exists (clinical exam or imaging) and delaying would cause demonstrable harm (e.g., severe psychosocial injury or progressive functional problems).

Required documentation for prior authorization (must be submitted)

1. Operative plan/consult note from the pediatric plastic/craniofacial surgeon describing: diagnosis, objective findings, procedure proposed (CPT 21230), and why autologous rib cartilage is required vs alternatives.
2. Evidence of functional impairment or significant psychosocial impact (examples):
    - For ear: audiology evaluation (if atresia/ossicular involvement), psychosocial assessment, or documentation of visual deformity causing documented social/psychological harm.
    - For nose: objective airway assessment (exam, nasal endoscopy, sleep/respiratory testing if relevant) or recurrent sinus disease correlated with structural defect.
3. Imaging/photographs: preoperative clinical photos; for microtia/rib-size concerns, surgeon-requested chest CT or 3D imaging if used to assess donor cartilage.
4. Prior treatments and alternatives: description of non-surgical treatments attempted or why they are inappropriate (e.g., prosthetic ear refused or not suitable, prior implants failed, conservative airway therapy insufficient).
5. For revision cases: prior operative reports and documentation of complication or failure necessitating revision.
6. Age and growth documentation: patient date of birth, growth parameters if relevant; surgeon statement confirming sufficient donor cartilage or reason for earlier reconstruction.

Exclusions / Not covered (typical denials)

- Purely cosmetic procedures where the primary goal is aesthetic improvement without functional impairment or significant psychosocial disability (e.g., elective cosmetic rhinoplasty for minor cosmetic hump without airway compromise).
- Procedures lacking objective documentation of functional impairment, lack of multidisciplinary evaluation where indicated, or inadequate justification for autologous rib cartilage vs less invasive options.
- Active infection, uncontrolled medical comorbidity, or inadequate donor cartilage documented by surgeon (unless temporary and correctable prior to surgery).
- Requests for multiple concurrent grafts without clinical justification (e.g., multiple separate grafts across unrelated sites in same episode without clear need).

Prior authorization decision criteria (how reviewers should decide)
Approve if all of the following are present:

1. A covered diagnosis (congenital or acquired deformity) with documentation.
2. Objective evidence of functional impairment or documented significant psychosocial disability caused by the deformity (a narrative alone is insufficient without clinician assessment).
3. Multidisciplinary surgeon evaluation and plan indicating autologous rib cartilage graft (CPT 21230) is the appropriate option.
4. For pediatric patients, documentation that either the child meets typical age/size thresholds for safe harvest OR surgeon provides explicit justification and imaging/assessment showing adequate donor cartilage.

Deny (or request additional information) if documentation is incomplete, if the condition is purely cosmetic, or if viable, less-invasive options exist and have not been considered.

Utilization / frequency guidance

- One primary autologous reconstruction per targeted area (ear/nose/face) is expected; subsequent revisions may be covered if the medical necessity criteria for revision are met and prior operative details/complications are provided.
- Bilateral procedures (e.g., bilateral ear reconstruction) require documentation supporting bilateral necessity.

Examples of acceptable indications (illustrative, not exhaustive)

- Grade III microtia with absent auricle and psychosocial/functional impact; surgeon plans autologous rib cartilage reconstruction and documents adequate donor cartilage.
- Post-traumatic nasal collapse causing significant nasal obstruction and failed septorhinoplasty attempts; autologous rib cartilage graft required to reconstruct dorsal framework.
- Post-oncologic resection of nasal/auricular cartilage resulting in functional deformity where autologous cartilage best restores function.

References (key sources)

- CPT descriptor & clinical summary for 21230 (autologous rib cartilage graft). AAPC+1
- ASPS / specialty guidance on cleft/nasal/auricular reconstructive procedures. plasticsurgery.org+1
- Pediatric timing and practice guidance for autologous costal cartilage auricular reconstruction (Children's hospitals, Mayo Clinic, peer-reviewed literature on timing and rib-size assessment). Mayo Clinic+2stanfordchildrens.org+2
- Payer medical policy examples (cosmetic vs reconstructive distinctions) used to inform exclusion criteria.