Ear Anomalies and Plastics Intervention

INFORMATION FOR MIDWIVES AND LMCs

Ear deformities

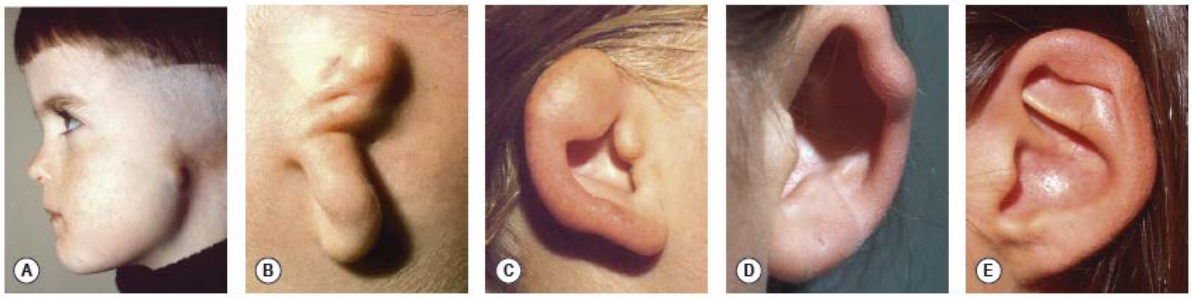
Deformational ear anomalies are not uncommon and occur in up 1:400 live births.

There is a spectrum of deformation from anotia (the absence of external/internal ear components) to mild external ear deformations (Lop/Stahl Ear, etc.)

Tanzer[i] has described a classification system according to the anatomical regions of the canal/external ear affected.

Clinical classification of auricular defects (Tanzer)
I. Anotia
II. Complete hypoplasia (microtia)
A. With atresia of external auditory canal
B. Without atresia of external auditory canal
III. Hypoplasia of middle third of auricle
IV. Hypoplasia of superior third of auricle
A. Constricted (cup and lop) ear
B. Cryptotia
C. Hypoplasia of entire superior third
V. Prominent ear

Nelligan – Plastic Surgery 3E Volume 3 Craniofacial, Head and Neck Surgery, Paediatric Surgery



*Ear malformations, shown by severity (**A**) Anotia. (**B**) Grade III microtia. (**C**) Moderate constriction. (**D**) Grade I constriction. (**E**) Lop ear*

Microtia – or 'small ear' (up to 1/1500 live births in certain populations) is also associated with auditory canal atresia. Hearing assessment at audiology should always be assessed in these children **without** hearing screening. These babies will be directly referred to audiology as per NSU UNHSEIP screening protocol.

Management of congenital ear deformational anomalies ranges from complex staged surgical correction in Grade I–II to simple splinting measures in Grades IV and above.

Tan et al[ii] have shown that early external splintage reduces long term auricular deformity and the need for later surgical correction.

Referral information for core midwives and LMCs

Babies who are an inpatient at CWH with simple deformational ear anomalies have been identified at the 24-hour newborn health check they should be referred by baby's LMC's or core MW/RN to the Plastic Surgery on-call registrar contacted through the Christchurch Public Hospital operator for consideration and treatment discussion with the parent/s or caregivers of simple splintage, while still in hospital. A time will be made in the Plastic Surgery Outpatients clinic as a follow up as well.

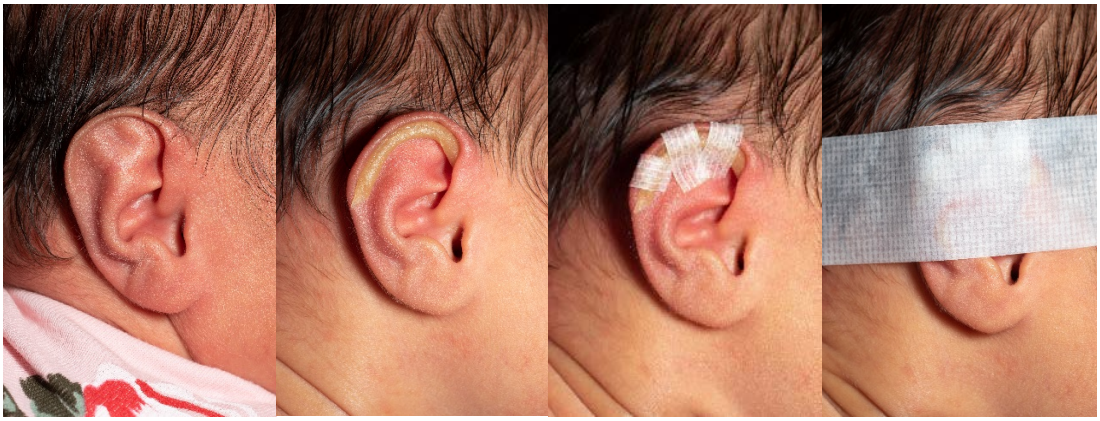
Complete the yellow consultation form which is in maternity the QMR003C and place this in the baby's notes. Please provide any relevant antenatal and/or postnatal complications or any other health concerns on this form. More complex anomalies should also be referred and appropriate multidisciplinary team consultations (neonatal service) can be arranged.

Referral process for babies in the community

If an ear anomaly at the 24-hour new born health check is noted and the baby is at a primary unit or at home take a photo of each ear and send the referral to plastics@cdhb.health.nz, attention Dr Sarah Gardiner/Oliver Jensen, including a brief summary of the baby's new born and antenatal health (including other anomalies). If the newborn hearing screening team are the first to notice an anomaly of the baby's ear they or the UNHSEIP coordinator will call the LMC and discuss options of referral for the baby. The parent/caregiver, when seen by the Plastic Surgery team, will have the opportunity to discuss options and whether they choose to correct the ear anomaly.

Ear splinting

The technique of ear splinting used at Christchurch is as described by Manji et al[iii]; a small roll of thin DuoDerm is used to splint the anti-helical fold, secured with steri-strips and 3M Silicone tape to set-back the pinna.



Ideally this would be performed as soon as the anomaly is noted and within the first week of life to achieve the highest success of long-term correction in the shortest timeframe.

Follow up will be performed 1 week after first splint application in Plastic Surgery Clinic then as required for the following weeks.

At week 5, the splint is taken down for 24 hours and if the ear anomaly remains corrected after this time, one further week of splinting is applied then ceased.

The simple splinting technique is taught to the parents/caregivers of the newborn and is performed by them weekly which is an effective non-invasive treatment method. If there are any questions, please contact the UNHSEIP coordinator on 027 3450 849 or angela.deken@cdhb.health.nz

[i] Tanzer RC. The constricted (cup and top) ear. *Plast Reconstr Surg.* 1975, 55:406
[ii] Tan ST, Shibu M, Gault DT. A splint for correction of congenital ear deformities. *Br J Plast Surg* 1994;47:575e8

[iii] Manji, I. Durlacher, K. Verchere, C. Correction of neonatal ear deformities using DuoDERM: A simple technique, *Paediatrics and Child Health*. 2020 1, 1-4