

Ear Anomalies and Plastics Intervention

INFORMATION FOR MIDWIVES AND LMCs

Ear deformities

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

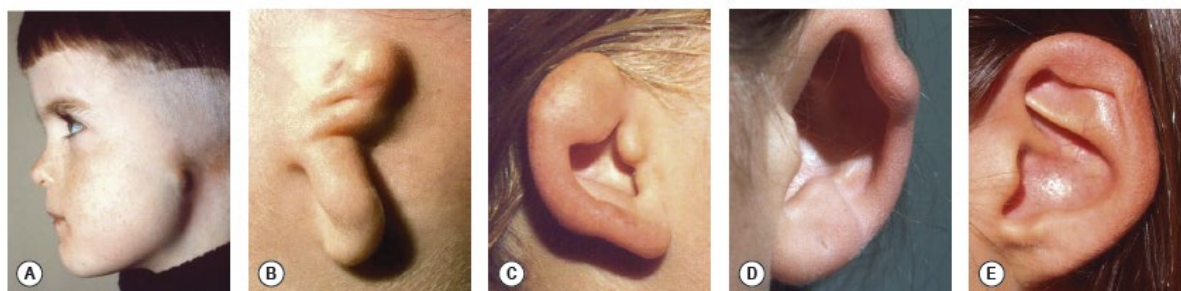
There is a spectrum of deformation from anotia (the absence of external/internal ear components) to mild external ear deformations (Lop/Stahl Ear, etc.)

Tanzerⁱ 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

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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 Antenatal and Childhood Screening 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 alⁱⁱ have shown that early external splintage reduces long term auricular deformity and the need for later surgical correction.

Referral process for all babies

To ensure that it is only those babies who have an ear shape that is correct the below picture describes what ear shapes can be corrected with taping. It is also to ensure that new parents are not coming to the hospital with their baby whose ear shape doesn't warrant reshaping.

The plastics ear clinic has asked that all those wanting to refer to the plastics OPD consider what is appropriate for referral as many ears will self-correct over the first few weeks of life. It is only the shapes below or an obvious mal-formed ear (e.g. microtia or atresia) that should be referred to plastics OPD. Microtia or atresia should be referred by the Paediatric/NICU team if the baby is an inpatient.

If LMCs/referrers are unsure they need to take a photo of both the baby's ears and email these pictures along with the NHI of the baby with parental consent, to the UNHSEIP coordinator at:

angela.deken@cdhb.health.nz. The coordinator if unsure of the ear shape will consult with the ear clinic nurses or the Plastic doctors to advise whether referral is deemed necessary and the LMC will be advised of the outcome. If referral is advised the UNHSEIP coordinator will refer the baby to the plastics outpatient's department.

Below are the shaped ears that will benefit from taping.

PROMINENT / CUP EAR



STAHL'S EAR



LIDDING / LOP EAR



HELICAL RIM DEFORMITY



TYPES OF EAR DEFORMITY

Ear splinting

The technique of ear splinting used at Christchurch is as described by Manji et alⁱⁱⁱ; 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 weeks 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