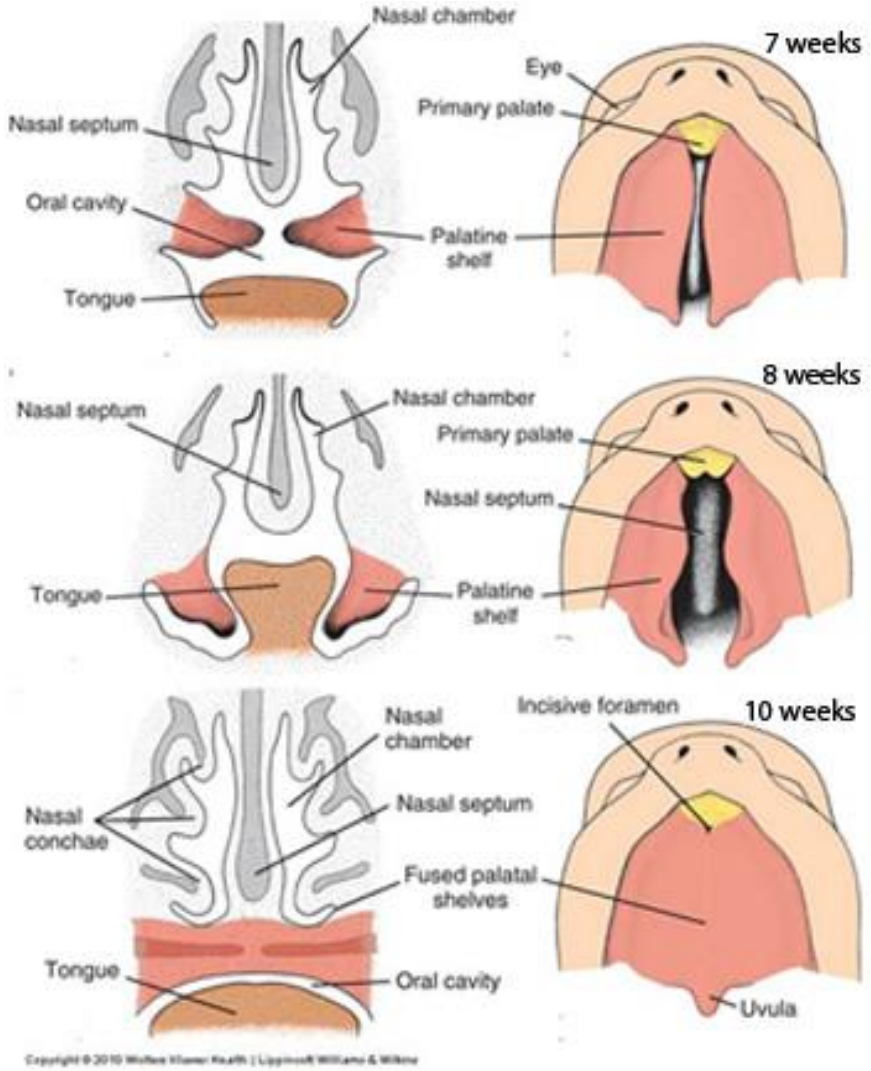
Cleft lip & Palate.

CARIS meeting November 2022

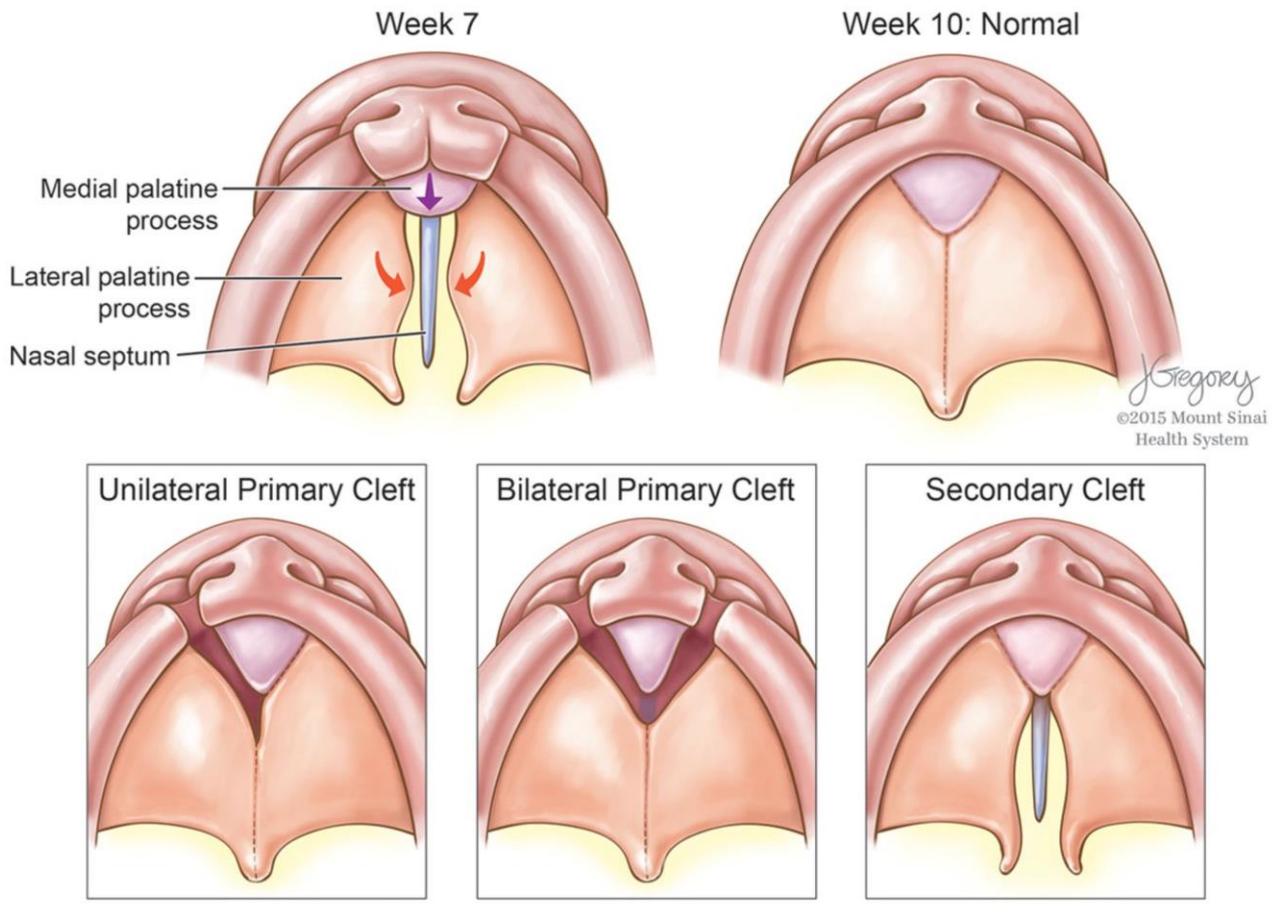
Why screen for it? WHO principles

- The condition should be an important health problem
- There should be an accepted treatment for patients with the recognised condition.
- Facilities for diagnosis and treatment should be available
- There should be a latent or symptomatic stage.
- There should be an acceptable test or examination.
- The test should be acceptable to the population.
- The natural history of the condition should be understood.
- There should be an agreed policy on who to treat.
- The cost of case finding should be balanced with the cost of the medical care as a whole.
- It should be a continuing process.

Embryology of the hard palate - normal



Embryology of lips and palate



Associations and risk factors.

- There is no single cause and mostly it is unknown.
- Family history of cleft lip / palate
- Low maternal intake of folic acid
- Smoking and increase alcohol intake
- Maternity obesity
- Maternal medication (folate antagonists) Anti-epileptic group, methotrexate, isotretinoin.
- Chromosome disorders (especially if bilateral), notably trisomy 18 & triploidy.

Antenatal detection. FASP programme. About 70% detection rate.

- Cleft lip may vary from very subtle to marked which may extend into the nostril and involve alveolar ridge and hard palate.
- Isolated cleft palate is much harder to detect on ultrasound if at all.
- Those not seen at the 20 week anomaly scan may sometimes be found on a later growth scan as an incidental finding.
- Or diagnosed at birth when it may be obvious, or during examination of the newborn. (long standing practice)

Antenatal screening - FASP. Standard ultrasound views

Profile of face – alignment.

Coronal view of lips and nose

Normal coronal view of lips and nose

Coronal view of lips and nose

Rotated - normalised

Cleft lip and palate – required ultrasound views

The ultrasound views required to image the types of clefts described are given below.

Type of cleft	Structures involved	Ultrasound description	U/S views required for diagnosis
Unilateral cleft lip	a) upper lip	Unilateral cleft lip (incomplete)	Coronal & transverse
	b) upper lip & nose	Unilateral cleft lip (complete)	
	c) upper lip, nose & alveolus	Unilateral cleft lip (complete) & alveolus	
Bilateral cleft lip	a) upper lip	Bilateral cleft lip (incomplete)	Coronal, transverse & sagittal
	b) upper lip & nose	Bilateral cleft lip (complete)	
	c) upper lip, nose & palate	Bilateral cleft lip (complete) & alveolus	
Cleft lip & palate (unilateral/bilateral)	Upper lip, nose, alveolus & palate	Cleft (unilateral/bilateral) lip, alveolus & palate	Coronal, transverse & sagittal
Cleft palate (NB-rarely detectable)	*a) hard palate* *b) soft palate* *c) hard & soft palate*	*Cleft palate*	*Transverse*

Unilateral cleft.

Unilateral cleft lip

Alveolar ridge

3D Ultrasound Imaging

Normality confirmed

Anomaly defined

2D v 3D imaging comparison (same fetus) Lesion extends into nostril and nose deviated

Fetus supine, vertex to left of frame

Antenatal management of cleft lip & palate

- Antenatal diagnosis is important when possible.
- Assessment by ultrasound as far as possible, invasive testing if appropriate. (bilateral lesions +/- other anomalies)
- Antenatal referral to CLAPA team (regional)
- Inform CARIS
- Inform parents about process, help with feeding.
- Inform / alert on records for midwifery staff, Paediatrician

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Working to support, connect and empower everyone affected by cleft in the United Kingdom

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