Multidisciplinary Care of the Cleft Patient

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Plastic Surgery

Consent

Consents were obtained for all patient pictures.
Overview

Treatment Timeline

Management in Early Infancy

Primary Cleft Lip Repair

Primary Cleft Palate Repair

Other Operations

Cleft Care

• Birth to Late Adolescence

• Annual Follow-up

• Multi-Disciplinary Team Approach

• Weekly Cleft Clinic
Early Infancy

- Feeding
- Family Counseling
- Appropriate Referrals
- Naso-alveolar Molding (NAM)
Feeding

Haberman Feeder

Pigeon Nipple

Feeding

The Haberman feeder - How it works

Silk Valve
- Controls the flow of feed, depending on orientation within baby's mouth

Raised Markings
- Indicates the position of the silk valve in baby's mouth. The longer the raised mark, the greater the flow

Valve Membrane
- Silica gel: prevents vacuum and helps to prevent sucking air into container, not feed
Pre-Surgical Infant Orthopedics

Naso-Alveolar Molding (NAM)

- Weekly Adjustments
- Alignment and Apposition of Maxillary Segments
- Shaping of Nasal Alar Cartilage
- Duration: 3-4 months

Photos courtesy of Dr. Wirthlin
### Treatment Timeline: Major Surgeries

- Primary Lip Repair (3-4 months)
- Primary Palate Repair (10-12 months)
- Bone Graft to Maxillary Alveolus (7-11 years)
- Cleft Septorhinoplasty (14-16 years)

### Treatment Timeline: Other Surgeries

- Secondary Lip/Nose Revisions
- Secondary Speech Surgery for VPI – Velopharyngeal Insufficiency
- Orthognathic Surgery
Presentation

Wide Spectrum

Cleft

Normal
Goals of Lip Repair

- Preservation of Natural Landmarks
- Judicious Discard of Tissue
- Scar Along Junction of Anatomical Subunits
- Sound Muscle Repair
- Nostril Margin of Equal Circumference
- Symmetric Alar Bases

Primary Cleft Lip Repair

Rotation Advancement Technique
Millard Repair
Primary Cleft Lip Repair

Anatomic Subunit Approximation Technique
Fisher Repair

Ideal Line of Repair

Fisher 2000

\[ a - b - 1 \text{mm} = c \]
Anatomic Subunit Approximation Technique
Fisher Repair
Bilateral Cleft Lip

Surgical markings for complete bilateral cleft lip repair
Bilateral Cleft Lip
Cleft Palate Lip: Primary Goal

- Development of Normal Speech
- Separation of Oral and Nasal Cavity

Veau Classification
Cleft Palate Repair

Cleft Palate Repair
Cleft Palate Repair: Muscle Repair

Cleft Palate Repair

Palate Lengthening
### Alveolar Bone Graft

- Mixed Dentition
- Age 7 – 11
- Prior to Eruption of Permanent Canine
- Donor Site: Iliac Crest
Alveolar Bone Graft

Alveolar Bone Graft
Alveolar Bone Graft

Pre-Op

Post-Op

Cleft Rhinoplasty
Cleft Orthognathic Surgery

Goal: Correct Dentofacial Deformity

Intrinsic deficiency in midface growth

Rate of Orthognathic Surgery:
• Unilateral Cleft Lip/Palate: 48.3%
• Bilateral Cleft Lip/Palate: 65%
Secondary Deformity: Cleft Lip Revision

Secondary Deformity: Cleft Lip Revision
Secondary Deformity: Palatal Lengthening

Speech Therapy

- Infant Feeding
- Annual Speech Evaluations
- Diagnostic Testing for Velopharyngeal Insufficiency – VPI
- Treatment Planning for Secondary Palate Surgery
## Orthodontics

- Naso-Alveolar Molding (NAM)
- Preparation for Alveolar Bone Graft
- Orthodontic Treatment (Braces)
- Surgical Planning for Orthognathic Surgery

## Research

- Texas Children’s Hospital Cleft Database
- Patient-Reported Outcomes (PRO) – CLEFT-Q
- 3dMD Photogrammetry – Morphometrics
- Speech Outcomes in Cleft Palate Patients
Peer Networking

Annual Cleft Camp: Camp Keep Smiling

Texas Children’s Hospital Cleft Team

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