ORTHODONTICS:
WHAT, WHEN, AND WHY

Dr. Eric Bell  DDS, MS
MY BACKGROUND:

- Saint John’s University (Bachelor or Arts: 2006-2010)
  - Biology major
  - Soccer

MY BACKGROUND:

• University of Iowa Orthodontic Residency (MS: 2017-2019)
MY BACKGROUND:

• Bell Orthodontics (Est. Oct 2022)
  • Sartell
  • Little Falls
  • Big Lake
FAMILY!!!
**WHAT?**

- **Orthodontics and Dentofacial Orthopedics**
  - A specialist in the diagnosis, prevention and treatment of dental and facial irregularities.

  - **Diagnosis** – Clinical exam, evaluation of patient records (photos, x-rays, models), and patient consult

  - **Prevention** – Limit or prevent negative changes to the soft and hard tissue in the head and neck. (sometimes no treatment is the best treatment)

  - **Treatment** – Manipulation of the dentofacial tissues to provide a stable and harmonious occlusion
WHAT? - DIAGNOSIS

- Photos (intra/extraoral)
- X-rays (Panoramic, Cephalometric, CBCT)
WHAT? - PREVENTION

• Habits:
  • Thumb/finger
  • Tongue

• Guided Eruption:
  • Open space for erupting permanent dentition due to excess crowding

• Early Extraction:
  • Removal of primary teeth due to lack of root resorption

• Space Maintenance:
  • Removal of primary teeth due to lack of root resorption or disease
  • Allows use of leeway space

• Orthopedic intervention:
  • Allows the ability to change skeletal positioning of the upper and lower jaw
WHAT? - PREVENTATIVE TREATMENT

• Habits:
  • Appliances

• Guided Eruption:
  • Phase I treatment to open space for erupting dentition

• Early Extraction:
  • Removal of primary teeth due to lack of root resorption and crowding

• Space Maintenance:
  • Lower lingual holding arch
  • Nance-button
  • Band-loop spacer
  • Distal shoe
  • Retainer (hawley, essix/clear)

• Orthopedic intervention:
  • Expansion
  • Headgear
    • Cervical or high-pull
    • Reverse-pull
WHAT? - PREVENTATIVE TREATMENT

- 9yr old female
  - Narrow maxilla
  - Compensated mandibular molars
  - Mesial impacted #3
  - Significant maxillary and mandibular crowding
  - Anterior cross-bite
  - Gingival strain #24-25
WHAT? - PREVENTATIVE TREATMENT

- 9yr old female
  - Partial maxillary braces
  - Maxillary expansion
  - Mandibular braces
- Treatment time: 14 months
• 9yr old female
  • Narrow maxilla
  • Posterior cross-bite
  • Maxillary crowding
WHAT? - PREVENTATIVE TREATMENT

• 9yr old female
  • Maxillary expansion
  • Partial maxillary braces

• Treatment time: 8 months
WHAT? - PREVENTATIVE TREATMENT

- 10yr old male
  - Narrow maxilla
  - Posterior cross-bite
  - Functional shift to the right
10yr old male
- Maxillary expansion
- Partial maxillary braces

Treatment time: 7 months
8/12/2019
13 Y.O.
#B, C, & H EXTRACTED

9/20/2021
12 Y.O.
IMPACTING #6, 11
DEVOLANT ERUPTION #22, 27
HYPODONTIA 25, 29
TREATMENT: EXT C, H, M, R
Treatment Option:
Oral surgery open exposure of #6 & 11 allowing spontaneous eruption

10/17/2017
10 Y.O.

Gone for 3 years

1/18/2021
ECTOPIC ERUPTION #3

7 y.o.
WHEN?

• The American Association of Orthodontists recommends initial orthodontic exams occur at the age of 7 yrs old.

• General and Pediatric Dentists are extremely important in the referral of this population

• Treatment or recall monitoring may result from this initial consultation

• Most initial (Phase I) treatments occur between the ages of 8-10 yrs of age

• Patients can be referred earlier than 7 yrs old if their dentists finds a concerning issue (ex: craniofacial anomaly – cleft lip/palate, hemifacial microsomia, dwarfism, treacher collins, downs syndrome, etc)
An Orthodontic evaluation at Age 7 will help determine bite problems such as these:

- Crowding
- Open Bite
- Protrusion
- Anterior Cross Bite
- Posterior Cross Bite
- Complete Class III
• ADOLESCENTS and ADULTS

• Patients should be referred at 7yrs old or any time after due to the following
  • Malocclusions (class I, II, or III)
  • Impacted teeth
  • Anterior/Posterior cross-bite causing a functional shift, incisal wear, or gingival stripping
  • Blocked out permanent dentition due to crowding or lack of root resorption
  • Transposed teeth
  • Excess crowding or spacing
  • Missing teeth
  • Deep bite or open-bite
  • TMJ disorders/discomfort (clicking, popping, crepitus)
  • Craniofacial abnormalities (cleft lip/palate, hemifacial microsomia, dwarfism, treacher collins, etc)
  • Airway issues (sleep disordered breathing: snoring, sleep apnea, day time tiredness, etc.)
  • Speech issues (narrow palate, tongue tie, malocclusion)
  • Oral hygiene issues

WHEN?
• Sleep Disordered Breathing

• Refers to a wide spectrum of sleep related conditions including increased resistance to airflow through the upper airway, heavy snoring, marked reduction in airflow (hypopnea), and complete cessation of breathing (apnea)

• Signs:
  • Snoring
  • Daytime tiredness and trouble focusing
  • Hypopnic and apnic events
  • Waking suddenly, gasping for breath
  • Morning headaches
  • Mood swings
  • Bed wetting

• Treatment:
  • Expansion (children and adults)
  • Orthognathic surgery
MARPE:
MAXILLARY ASSISTED RAPID PALATAL EXPANSION
• To ensure each maxillary (upper) tooth properly meets its opposite tooth on the mandibular arch
  • This creates proper function
  • Proper function facilitates:
    • Biting
    • Chewing
      • Ability to eat a variety of foods for good nutrition
  • Proper speech
  • Teeth that work together properly tend to look better
    • A beautiful smile increases self-esteem, establishes confidence, and has been proven to better your future
WHY?

- 15yr old male
- Class II malocclusion
- Maxillary spacing
- Significant overjet
- Deep Overbite
WHY?

• Great transformation!
WHY?

- 40yr old male
- Maxillary and mandibular crowding
- Deep overbite
- Difficulties maintaining hygiene
WHY?

- Great transformation!
- 16months!
WHY?

- 10yr old female
- Impacted maxillary canines
WHY?

- 11yr old female
- Impacted canines
- Previously extracted maxillary first premolars
- Mandibular crowding
WHY?

• Great maxillary premolar removal transformation!
WHY?

- 15yr old male
- Dworfism
- Retrognathic Maxilla
- Severe class III malocclusion
- Severe anterior cross-bite
- Maxillary and mandibular spacing
WHY?

• Extremely difficult surgery to move maxilla forward and mandible back

• Life changing!
WHY?

Laser Gingivectomy

CONFIDENCE!!!
WHY?...

THIS IS WHY!!!
QUESTIONS???

Dr. Eric Bell  DDS, MS