

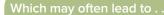
## A Developmental Approach to Obstructive Sleep Apnea and Human Health



#### Where it may begin . . .

### Underdeveloped Mouth and Jaws

- Underdeveloped upper jaw
- Underdeveloped lower jaw
- Nasal dysfunction and structural abnormalities
- Tongue-tie



#### Nasal and Dental Abnormalities

- Narrow palatal dental arch
- Crowded/ crooked teeth
- · Teeth grinding
- Crossbite
- TMJ dysfunction
- Bony growths in the oral cavity
- Nasal resistance and obstruction
- Swollen tonsils/ adenoids
- Dry mouth
- Improper tongue position

#### Which may often result in

# Breathing and Sleep Disorders

- Mouth breathing
- Obstructive sleep apnea (OSA)
- Upper airway resistance syndrome

# Many Debilitating and Chronic Comorbidities

And may often lead to ...

- Cardiovascular disease
- Hypertension
- Fibromyalgia
- Bedwetting
- · ADD/ADHD
- Excessive drowsiness
- Stroke
- Diabetes
- Pain
- Cancer
- Depression
- Anxiety

Chronic health conditions associated with OSA may ultimately be traced back to improper development of the jaws and oral cavity.

