



## SIALORRHEA

This fact sheet will provide basic information about sialorrhea (drooling or excessive salivation) for individuals with cerebral palsy (CP), their caregivers and primary care physicians.

Sialorrhea is drooling of saliva due to a difficulty in a person's ability to control and swallow one's own saliva. In children and adults with CP, sialorrhea is usually the result of muscle coordination and sensory perception difficulties rather than excessive salivation.

### How is saliva/drool made?

- 3 pairs of glands in the mouth produce 500 - 2000 ml of saliva daily; the submandibular, sublingual and parotid glands

### What is the function of saliva?

Saliva has many important functions most importantly the digestion of food and the maintenance of oral hygiene. The full list of functions is;

- Moistens food to help with chewing and forming food into a soft ball to help with swallowing the food
- Lubricates the tongue and lips during talking
- Helps with prevention of cavities by cleansing the teeth and gums
- Helps with taste
- Saliva contains enzymes that are needed to start the digestion and uptake of food

### Why do some children drool?

- Drooling is normal in infants during the first 6-18 months until oral motor control is learned
- Typically children over 4 years of age no longer drool
- Children/adults with CP or other neurologic conditions may continue to drool due to:
  1. Poor oral motor control leading to drool spilling over the lips especially, if child's/adult's head is tilted forward. And into back of mouth/throat if tilted back.
  2. Difficulty with muscle control or tone causing poor head control or trunk control affecting sitting.
  3. Having difficulty noticing that saliva is spilling over lips onto face
  4. Too much saliva production

### What causes parent or care giver concerns in drooling?

- Rash on face or infection due to drool spilling onto face
- Bad odor
- Pneumonia or bronchitis due to drool spilling into back of mouth and into airways/lungs (aspiration of saliva)
- Socialization, school, or employment concerns due to appearance
- Need for bibs or constant change of shirts or sweaters



## How is sialorrhea evaluated?

- Sialorrhea is evaluated by observing the child/adult and talking with parents/caregivers and children/adult
- Need for treatment is based on individual needs and amount of drooling

## Treatment Options:

### Therapy and Positioning

- Therapy to improve head and trunk control
- Therapy to improve oral motor control
- Review of seating and positioning during the day, night and with feeding

### Medication Management

- Oral medication to decrease saliva production (glycopyrrolate)
- Topical medication to decrease saliva production (transdermal scopolamine)

### Botulinum Toxin Management

- Botulinum toxin injection of the salivary glands under ultrasound guidance or fluoroscopic guidance.

### Surgery

- Particularly beneficial for children/adults with severe drooling who have not had significant benefit from above options or do not want to continue with repeat long-term Botulinum toxin management.
- Surgery may include salivary gland reduction or removal, salivary duct surgically tied, or salivary ducts re-routing to decrease risk to spill over lips.

### Radiation

- Rarely used. Generally adults who are not able to tolerate any of the above options and excessive saliva is a serious issue to quality of life.

## References:

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