

## Botulinum Toxin in the management of drooling

Botulinum toxin is a drug that blocks the flow of nerve impulses to muscles, sweat glands and salivary glands. There are reports throughout the world about the use of botulinum toxin to help manage drooling. It is also used to help treat muscle contractures for people with conditions such as cerebral palsy. It is used mostly in the legs, but increasingly in the arms. The Royal Children's Hospital is a world leader in the use of this drug.

### How is it used in the management of drooling?

- Botulinum toxin is injected directly into the saliva glands, with the use of an ultrasound scanner. This helps guide the needles to ensure the drug is injected into the right place. A total of four injections are given, each about 1 ml.
- Within 1–3 days after the injection of botulinum toxin, the drug binds on to the nerve endings. This reduces the amount of saliva being made from the glands that were injected.
- The procedure is done under a short general anaesthetic, and your child will usually go home the same day.
- The effect may last up to 3 months. Some people say it lasts up to 6 months.
- The treatment may also encourage some children to manage having less saliva production and slowly learn how to manage their drooling as the effects wear off.
- The treatment may not work at all in some children.

### Side effects

- The side effects may include minor bruising and swelling in the area of the injections.
- Occasionally speech and swallowing can be affected if your child is injected in the neck region.
- Skin rashes, itching and allergic reactions to the drug are all very rare.

### Use of botulinum toxin before saliva control surgery

It may be possible to predict the result of saliva control surgery by injecting the salivary glands with botulinum toxin. Although if your child does not respond to a botulinum toxin injection this does not always mean that surgery will not work. If a trial of botulinum toxin injections is successful in your child you are not committed to having surgery.

#### A note about surgery:

Although saliva control surgery is proving to be a very useful, it is a very invasive operation. Surgery involves removing the sublingual glands and moving the

submandibular ducts to the back of the tongue. Hopefully the saliva is then swallowed instead of drooling out the mouth. Surgery is successful for about 8 out of every 10 patients. It does not work so well for about 2 in every 10.

## Care at home

Your child may have minor bruising and swelling in the area of the injections. If this causes your child pain you can give them pain killers, such as paracetamol, as directed on the label.

There are sometimes side effects of a brief anaesthetic i.e. feeling sick, drowsiness. Most patients do not have these problems.

## Follow up

- All patients undergoing this procedure will need to come back to the hospital for an outpatient visit, one month and then six months, after the injection of botulinum toxin. These appointments are to check your child and talk about the results of the injections with you.
- At present we can only offer this treatment once for each child.
- **Questionnaire**  
We ask all our children/parents to complete a questionnaire once a month for six months about how your child's dribbling may have changed. We are grateful for your help in completing this as it helps to improve our knowledge of this treatment.
- The results of this research will be published in the international medical literature in the next few years.

## For more information

- **Saliva Control Clinic**  
Royal Children's Hospital (03) 9345 5896
- **Sedation for procedures** [factsheet](#)

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