

All about Desmopressin for Healthcare Professionals

When should I consider suggesting Desmopressin?

Desmopressin is a synthetic analogue of arginine vasopressin and is therefore useful in treatment of enuresis caused by nocturnal polyuria. It is recommended by [NICE](#) as a first-line treatment, particularly where rapid onset or short-term improvement is a priority or where an alarm is considered inappropriate or undesirable to the child and/or family.

Desmopressin can be used in children from five years of age who are able to comply with fluid restriction for an hour prior to its administration and for eight hours after. It is easy to administer, particularly in the Melt formulation and may be used in combination with other treatments.

Is Desmopressin appropriate to use in children?

Desmopressin is an effective treatment for enuresis and should be used in the Melt or tablet formulations. The nasal spray should not be used for enuresis. Incidence of side-effects is low. They include abdominal pain, headache, nausea and vomiting. Hyponatremia is the most serious potential side-effect but is usually associated with excess fluid intake in the hour prior to taking Desmopressin or the eight hours after taking it.

Isolated cases of allergic reactions and emotional disorders, including aggression in children, have been reported. Any side effects should be reported directly via the Yellow Card Scheme at www.mhra.gov.uk/yellowcard and to Ferring Pharmaceuticals Ltd: Tel 0800 111 4126 or Email: medical.uk@ferffing.com.

Are there any circumstances where Desmopressin should not be used for enuresis?

Desmopressin should not be used in children who have cardiovascular disease, cardiac insufficiency, who are taking diuretics, have hypertension or who have a history of hyponatremia. It should not be used in young people who have polydipsia due to alcohol dependence or who have psychogenic polydipsia.

Desmopressin should be used with caution with children who have asthma, reduced renal function, cystic fibrosis or migraine.

The British National Formulary for Children provides a list of possible drug interactions for Desmopressin. All the drugs listed may increase the risk of hyponatremia when given in

combination with Desmopressin. The symptoms of hyponatremia include headache, nausea, vomiting, confusion, sleepiness, restlessness, muscle weakness and in severe cases convulsions.

Are there any specific instructions that I should give families whose children are taking Desmopressin?

It is important to inform children and their families that the child must not drink for an hour prior to taking desmopressin and for eight hours after taking it. This is because excessive fluid intake increases the risk of hyponatremia. They should be advised about the symptoms of hyponatremia. Desmopressin should not be given if the child is unwell, particularly if they have diarrhoea, vomiting or a raised temperature.

Should I suggest an alarm before recommending Desmopressin?

Treatment advice should be based on the outcome of assessment. Assessment should indicate the most likely cause of enuresis and should consider the most acceptable treatment for the child and family. Desmopressin is indicated for treatment of nocturnal enuresis. Desmopressin may be tried if it is important to the child and family to have rapid progress, short-term dryness or if an alarm is considered inappropriate or undesirable for any reason.

Desmopressin may be used in combination with other treatments including an alarm.

Which formulation of Desmopressin is better, tablets or melts?

Melts are designed specifically for children and are often more acceptable to them. They do not require water to swallow them. Many children need a significant amount of water to be able to swallow a tablet.

As DesmoMelt® dissolves in the mouth and is absorbed through the buccal membrane the bioavailability is increased, hence the dose required is lower than that of the tablet. As it bypasses the stomach, it is not influenced by the presence of food, so DesmoMelt® may be more effective in children who have a meal shortly before bedtime.

There are some research papers that indicate that DesmoMelt® may be more effective than Desmopressin tablets. If a decision is made to start with tablets and these are ineffective, it should not be assumed that DesmoMelt® will also be ineffective – a trial should be considered.

Should I recommend the 120mcg or the 240mcg melts?

The normal starting dose of DesmoMelt® is 120mcg, which can be increased to 240mcg if the child continues to have wet nights after a week on 120mcg. DesmoMelt® 120mcg and 240mcg are clinically bioequivalent to Desmopressin solid tablet 200mcg and 400mcg respectively.

The dosage of Desmopressin is standard regardless of the size or age of the child. The dose required is dependent on the response. If a child is dry on 120mcg the dose does not need to be increased. If they are wet two or more nights a week the dose may be increased to 240mcg which is the normal maximum dose. Using more than the recommended maximum dose increases the risk of hyponatremia, as the child may still have some of the active ingredient in their body the following morning. If the child continues to have partial or no response on the maximum dose alternative or combination treatment should be considered.

The child and family should be advised that DesmoMelt® is available in two strengths: 120mcg and 240mcg. The maximum dose is 240mcg. The cost to the NHS of the 120mg is exactly half the cost of the 240mcg melt. The 240mcg DesmoMelt® may be used for children who need the stronger dose, or they may take two of the 120mcg DesmoMelt®.

What advice should I give if DesmoMelt® breaks when taken out of the packet

DesmoMelt® may be used if it has broken into two pieces. If it is in more than two pieces, it should be discarded.

When should Desmopressin be given?

Desmopressin should be given up to an hour before bedtime, but at least an hour after the child has their last drink. As Desmopressin can take up to an hour from administration to reach maximum concentrating capacity in the kidneys, giving it an hour before bedtime might increase response. However, stopping drinks up to two hours before bedtime may not be practical in younger children.

Will Desmopressin work for everyone?

Desmopressin treats nocturnal enuresis. However, there are different causes for enuresis. Desmopressin will not treat constipation, overactive bladder or problems with sleep arousal. Furthermore, children may continue to have wet nights if they have nocturnal polyuria and the production of urine during sleeping hours continues to exceed bladder capacity, even with Desmopressin. Some children may not respond as well to the Desmopressin as others and studies have identified that a small bladder capacity or nocturnal bladder instability may be contributory factors.

If the child continues to have wet nights on Desmopressin, it may not be the correct treatment for them: they may require a different treatment or combination treatments.

How long should the child take Desmopressin for?

Desmopressin should be taken for an initial period of 12 weeks, following which children should have one week without it. The child and family should monitor their wet nights. If the child is wet for two or more nights in the week without Desmopressin, they may recommence it for a further period of 12 weeks. They should recommence the Desmopressin at the same dose as they were taking prior to the break. Being wet in the

week without Desmopressin is not an indication for increasing the dose. If the child has been taking 120mcg DesmoMelt® (200mcg tablet) and dry on the nights when they take it, they should resume it at that dose.

If the child is dry for six or more nights in their week without Desmopressin, they should not restart it, but should continue to monitor wet and dry nights and only consider restarting Desmopressin if the wetting increases beyond two nights a week. The family should be advised to try to work out possible causes for any wet nights, so that these can be addressed, if possible.

It is appropriate for Desmopressin to be taken in the long term, so long as the child adheres to the advice about fluid restriction and continues to have one week without Desmopressin every 12 weeks, to monitor progress and to see if they continue to need it. If the child is dry on nights where they take Desmopressin and is wet without it, they may continue to take it.

How or when should Desmopressin be stopped?

If the child is dry in the week without Desmopressin it should not be restarted. If the child has been on treatment for at least six months and has been dry on some nights where they have not taken Desmopressin, or if the child and family request it, consideration could be given to weaning the dose. Giving the child and family the choice of how/when this is done often produces the best results.

Weaning can be done in different ways. Some children chose to take 120mcg DesmoMelt® if they have been on 240mcg previously (200mcg tablet instead of 400mcg); others may choose to take Desmopressin for six nights for two weeks, then for five nights for two weeks and continue to reduce in this way. Some may choose to take it on alternate nights, or to throw a dice and take Desmopressin if the dice shows numbers 1 – 3. The important thing is for the child to monitor their response, so they can clearly see whether they are dry on nights when they do not take Desmopressin.

Is there any advice I should give to improve the likelihood of the child having dry nights?

Good daytime fluid intake should be encouraged. The child and family should understand the impact of poor fluid intake on bladder function. There is no evidence that Desmopressin cannot be used in the presence of poor daytime fluid intake, so long as the child is able to adhere to advice not to drink in the hour before taking Desmopressin and eight hours after taking it.

Any constipation or daytime urinary incontinence should be appropriately treated as these conditions negatively impact on bedwetting.

Ensuring that the child and family understand the condition and possible causes for it, as well as treatment options and giving them choice improves compliance and hence treatment outcomes.

Where can I get more information?

There is more information about bedwetting available on the Bladder & Bowel UK website at www.bbuk.org.uk. All the information is free to download and print.

There is information for families at www.stopbedwetting.org

Bladder & Bowel UK produce an electronic newsletter, 'Enuresis Update', about recent research on the causes and treatments of bedwetting that is available to healthcare professionals on our website at <https://www.bbuk.org.uk/paediatric-enuresis-excellence-group-newsletter/>

Bladder & Bowel UK offer bespoke training to professionals and provide an annual national paediatric education day as well as symposia. Details of all Bladder & Bowel UK training is available from <https://www.bbuk.org.uk/professionals/professionals-training/>

Bladder & Bowel UK provide a confidential helpline to professionals, those who have bladder and bowel conditions and their families at email bbuk@disabledliving.co.uk or telephone 0161 607 8219

