



## PROTON PUMP INHIBITOR (PPI) USE IN PAEDIATRIC PATIENTS – PRESCRIBING GUIDANCE FOR PRIMARY, COMMUNITY AND SECONDARY CARE

### Lansoprazole - dosage and administration information

(Not licensed for use in children. Refer to BNF for Children for further information)

**Child (body-weight under 30kg):** 0.5mg - 1 mg/kg once daily (maximum 15mg once daily)

**Child (body-weight 30kg and above):** 15mg - 30 mg once daily

Doses to be taken in the morning

**Lansoprazole dose schedules for children who weigh  $\geq 3.5$ kg:** lansoprazole doses have been weight banded to enable the orodispersible tablet to be halved/quartered before use for accuracy of dosing.

Weight	Daily dose	Portion of lansoprazole orodispersible tablet
3.5kg - 7.5kg	3.75mg	Quarter of a 15mg orodispersible tablet
7.5kg - 15kg	7.5mg	Half of a 15mg orodispersible tablet
15kg - 30kg	15mg	One 15mg orodispersible tablet
> 30kg	15mg - 30mg	One 15mg or 30mg orodispersible tablet
Adjust dose as child's weight changes		

- 1) **For doses of 15mg or 30mg where the child is able to swallow capsules** - use the appropriate strength of lansoprazole capsule.
- 2) **For doses of 15mg or 30mg where the child is unable to swallow capsules** - use the appropriate strength of lansoprazole orodispersible tablet.
- 3) **For children who weigh  $\geq 3.5$ kg who require less than a 15mg dose** - use the appropriate strength of lansoprazole orodispersible tablet. Dose can be given as a proportion of an orodispersible tablet using a tablet cutter. Refer to section A for further information.
- 4) **For children who weigh less than 3.5kg** - use the appropriate strength of lansoprazole oral suspension (unlicensed liquid special). Once a baby weighs 3.5kg and if therapy is still required, lansoprazole oral suspension should be changed to lansoprazole orodispersible tablets. Refer to section B for further information.
- 5) **For children with an enteral feeding tube  $\geq 8$ Fr** - use the appropriate strength of lansoprazole orodispersible tablets. Refer to section C for further information.
- 6) **For children with an enteral feeding tube  $< 8$ Fr** - use the appropriate strength of lansoprazole capsules dissolved in 8.4% sodium bicarbonate. Refer to section D for further information.

### Section A: Oral administration - lansoprazole orodispersible tablets:

- Lansoprazole orodispersible tablets do not form an even suspension in water, therefore, cannot be part dosed by dissolving in water and giving an aliquot, as this will lead to inaccurate dosing.
- Lansoprazole orodispersible tablets can be halved or quartered to achieve part-doses. Where this is required, a tablet cutter should be supplied on dispensing of the medication.
- Lansoprazole orodispersible tablets can be placed on the tongue, allowed to disperse and swallowed, or may be swallowed whole with a glass of water.
- Lansoprazole orodispersible tablets can be dispersed in water and given orally.
- Do not chew or crush the microgranules in the dispersion.
- If only a portion of an orodispersible tablet is administered do not keep the remainder of the tablet to use for the next dose. A new orodispersible tablet should be used for each dose.



- Prescribe lansoprazole orodispersible tablets generically. Do not prescribe as the brand name Zoton FasTab.

#### **Section B: Oral administration - lansoprazole oral suspension (unlicensed liquid special):**

- Lansoprazole oral suspension should be restricted for use in children who weigh less than 3.5kg.
- Use the appropriate strength of lansoprazole oral suspension for the dose:
  - Lansoprazole 5mg/5ml oral suspension (alcohol free and sugar free)
- Review the appropriateness of lansoprazole oral suspension on a regular basis due to the higher cost and unlicensed formulation.
- Once a baby weighs 3.5kg and if therapy is still required, lansoprazole oral suspension should be changed to lansoprazole orodispersible tablets.

#### **Section C: Administration via enteral tubes ≥8Fr:**

- Lansoprazole orodispersible tablets are licensed for nasogastric tube administration and can be administered via an 8Fr tube without blockage.
- Lansoprazole orodispersible tablets can be dispersed in 10 ml of water and flushed down the feeding tube using a push-pull technique to keep the granules suspended.
- Stop the enteral feed 30 minutes before dose.
- Flush the enteral feeding tube with the recommended volume of water.
- Place the whole, halved or quartered orodispersible tablet in the barrel of an appropriate size and type of syringe.
- Draw 10 ml of water into the syringe and allow the tablet to disperse, shaking if necessary.
- Flush the medication dose down the feeding tube using a push-pull technique to keep the granules suspended.
- Draw another 10 ml of water into the syringe and also flush this via the feeding tube (this will rinse the syringe and ensure that the total dose is administered).
- Flush with the recommended volume of water.
- Restart the feed 30 minutes after dose.
- If only a portion of an orodispersible tablet is administered do not keep the remainder of the tablet to use for the next dose. A new orodispersible tablet should be used for each dose.

#### **Section D: Administration via enteral tubes <8Fr:**

- Some brands of lansoprazole capsules are licensed for administration via nasogastric feeding tubes.
- For fine-bore tubes smaller than 8Fr, dissolve the contents of the lansoprazole capsule in 8.4% sodium bicarbonate (licensed 420mg/5ml, 1mmol/ml oral solution sugar free) before administration.
- Stop the enteral feed 30 minutes before dose.
- Flush the enteral feeding tube with the recommended volume of water.
- Open the capsule and pour the contents into a medicine pot.
- Add 15 ml of sodium bicarbonate 8.4% (this creates a 15mg/15ml strength for a 15mg capsule and a 30mg/15ml strength for a 30mg capsules).
- Stir to dissolve the granules.
- Draw into the syringe and administer via the feeding tube (draw up the proportion of the volume needed if the dose is less than the capsule strength).
- If the dose is a whole capsule strength, add a further 15 ml of water to the medicine pot; stir to ensure that any drug remaining in the pot is mixed with water.
- Draw up this dispersion and flush down tube. This will ensure that the whole dose is given.
- Flush the tube with the recommended volume of water.
- Restart the feed 30 minutes after dose.
- If the tube becomes blocked, lock the tube using 8.4% sodium bicarbonate to dissolve any enteric-coated granules lodged in the tube.



- There is limited information to support administration of lansoprazole oral suspension via enteral feeding tubes, and it may be too viscous for administration via enteral feeding tubes, therefore, should not be used.

**Section E: Additional information:**

- **Review:** Review appropriateness of treatment and formulation choice at each review.
- **Interactions:** The intake of food with lansoprazole slows down the absorption and decreases the bioavailability by about 50%; it is, therefore recommended that lansoprazole is taken one hour before meals.
- **Discharge and hospital supply:** Where appropriate, tablet cutters will be provided by the hospital pharmacy and an appropriate treatment plan communicated to the GP including dose and formulation.

<b>References</b>	BNF for Children: <a href="https://bnfc.nice.org.uk/drug/lansoprazole.html">https://bnfc.nice.org.uk/drug/lansoprazole.html</a> (accessed 17.12.20) Handbook of Drug Administration via Enteral Feeding Tubes via Medicines Complete. Lansoprazole monograph: <a href="https://www.medicinescomplete.com/#/content/tubes/c211">https://www.medicinescomplete.com/#/content/tubes/c211</a> (accessed 18.12.20) The NEWT Guidelines. Lansoprazole monograph: <a href="https://access.newtguidelines.com/L/Lansoprazole.html">https://access.newtguidelines.com/L/Lansoprazole.html</a> (accessed 18.12.20) Drug Tariff online (December 2020): <a href="https://www.nhsbsa.nhs.uk/pharmacies-gp-practices-and-appliance-contractors/drug-tariff">https://www.nhsbsa.nhs.uk/pharmacies-gp-practices-and-appliance-contractors/drug-tariff</a> (accessed 18.12.20) The Leeds Children’s Hospital Prescribing and Administration Guide: Lansoprazole and Omeprazole: <a href="http://www.leedsformulary.nhs.uk/docs/Paediatriclansoprazolemonograph.pdf">http://www.leedsformulary.nhs.uk/docs/Paediatriclansoprazolemonograph.pdf</a> West Essex CCG and the Princess Alexandra Hospital: <a href="https://westessexccg.nhs.uk/your-health/medicines-optimisation-and-pharmacy/clinical-guidelines-and-prescribing-formularies/01-gastro-intestinal-system/3594-ppi-paediatric-guidance/file">https://westessexccg.nhs.uk/your-health/medicines-optimisation-and-pharmacy/clinical-guidelines-and-prescribing-formularies/01-gastro-intestinal-system/3594-ppi-paediatric-guidance/file</a> West Hertfordshire Hospitals and Herts Valleys CCG: <a href="https://hertsvalleysccg.nhs.uk/application/files/5516/0803/4083/Proton_Pump_Inhibitor_PPI_use_in_paediatric_patients_-_joint_guidance_for_primary_and_secondary_care_v2.0_October_2020.pdf">https://hertsvalleysccg.nhs.uk/application/files/5516/0803/4083/Proton_Pump_Inhibitor_PPI_use_in_paediatric_patients_-_joint_guidance_for_primary_and_secondary_care_v2.0_October_2020.pdf</a>
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