NHS Ayrshire & Arran
Pharmacy Service

Pharmacy Information Notice

From	**Sarah McDonald – Principal Pharmacist Clinical Services**	*Number*	**2024/17**
To	**All prescribers, pharmacy and nursing staff**	*Date*	**24/09/2024**
Subject	**Shortage of Pabrinex IV/IM and clinical guidance for temporary switch to IV thiamine**		

An updated Medicines Supply Notification (MSN) has been issued for Pabrinex® Intravenous (IV) injection and Pabrinex® Intramuscular (IM) injection.

- Pabrinex® Intravenous (IV) injection is now out of stock with an expected re-supply date of late 2025. Local stock is likely to be exhausted in the next few days. A generic vitamin B and C IV preparation is expected to become available in late October 2024.
- Pabrinex® Intramuscular (IM) injection is being discontinued, with stock exhaustion expected from December 2024. Boards will be allocated a monthly allocation of 100% of historical use until further notice. Existing stocks are not able to support an increase in use of the IM preparation.
- An unlicensed preparation of thiamine hydrochloride 200 mg/2 mL injection is available and will be used in place of Pabrinex® IV injection until the generic product becomes available. This product has been approved for use by the ADTC and can be initiated by any prescriber.
- The unlicensed thiamine product can be used in pregnancy but a small amount of Pabrinex® IV will be retained for use in Ayrshire Maternity Unit and paediatrics until the generic product becomes available as use is very low in these areas. Current guidelines should be followed in these areas.
- Stock lists have been updated and stock of thiamine injection has been sent to all relevant clinical areas.
- **All new patients who require treatment with Pabrinex® IV should now be prescribed IV thiamine (with the exception of paediatric patients and pregnant patients being treated for starvation ketoacidosis).**

Local interim guidance for the use of thiamine injection has been agreed in line with the national guidance as follows:

Use in refeeding syndrome

ADTC 284 Prevention and management of Re-Feeding syndrome should continue to be followed. IV thiamine should be used in place of Pabrinex® IV and is only indicated in patients with intestinal failure at high, or extremely high risk of re-feeding syndrome, where the oral or enteral route is not available. Where indicated thiamine injection should be used at a dose of 200 mg IV once daily before initiation of nutrition support and continued at this dose for 3 days. This may need to be extended to 5 days for higher-risk patients.

Prophylaxis and treatment of Wernicke's encephalopathy (WE)

A significant change to local guidance is required and ADTC 92 Vitamin Prophylaxis and Treatment of Wernicke's Encephalopathy will be withdrawn until the generic vitamin B and C injection becomes available. Separate prescribing guidance for those at risk of WE and those requiring treatment for WE has been agreed. The interim guidance below should be followed:

Prophylaxis for people at risk of WE

IV thiamine followed by oral thiamine should be given to those with chronic alcohol use if they:

- are malnourished or at risk of malnourishment or
- have decompensated liver disease

And in addition:

- they attend an emergency department or
- are admitted to hospital with an acute injury or illness

People at high risk of Wernicke's encephalopathy can have a range of conditions, including:

- significant weight loss
- poor diet
- low BMI (<18)
- other signs of malnutrition
- memory disturbance
- peripheral neuropathy
- previous history of Wernicke's encephalopathy

Consider offering prophylactic parenteral thiamine to people at high risk following the dosing below

Give thiamine 200 mg IV once daily for 3 to 5 days with daily review and monitoring for emergent signs of Wernicke's encephalopathy. Ensure magnesium is monitored, and corrected if necessary, during thiamine treatment.

Treating Wernicke's encephalopathy

People with any of the additional symptoms below require treatment for Wernicke's encephalopathy.

- impaired eye movements (ophthalmoplegia)
- unsteady walking (ataxia)
- confusion

• Give thiamine 400 mg IV three times daily for 3 days and then review. • Continue thiamine 400 mg IV three times daily on day 4 and 5 if indicated or switch to oral thiamine if appropriate. • From day 6 give oral thiamine if appropriate or give thiamine 400 mg IV once daily until cognition plateaus, with daily review. Ensure magnesium is monitored, and corrected if necessary, during thiamine treatment.

NB: other causes for their confusion should be explored

Risk of anaphylaxis with parenteral thiamine
Anaphylaxis is a rare complication of IV thiamine administration. Monitor patient for wheeze, tachycardia, breathlessness and skin rash. Facilities for the administration of adrenaline and other resuscitation should be available (see **Management of Anaphylaxis**).

Once IV thiamine is discontinued, patients should be switched to oral treatment.

Thiamine tablets	50 mg four times daily or 100 mg three times daily (depending on cost and likelihood of compliance)

Magnesium deficiency
Magnesium deficiency can occur with chronic alcohol misuse. It is an important co-factor in thiamine dependent enzyme reactions.

Hypomagnesaemia can impair the biochemical and clinical response to parenteral thiamine and is an occasional cause of thiamine refractoriness in WE patients. It is prudent to check the patient's magnesium levels and to treat as per ADTC Guideline 97 - http://athena/adtc/DTC%20%20Clinical%20Guidelines/ADTC97.pdf

Administration of IV thiamine
The IV thiamine product available locally is thiamine hydrochloride 200 mg/2 mL injection.

The contents of the 200 mg/2 mL vial should be diluted with glucose 5% or sodium chloride 0.9%. For the doses recommended above volumes of 50-250 mL are acceptable. Concentrations up to 10 mg/mL have been used. A Medusa IV monograph is available using the link on the main page of AthenA.

Suggested dilutions for the doses recommended above are:

- Dilute 200 mg (2 mL) in 50 mL or 100 mL
- Dilute 400 mg (4 mL) in 50 mL or 100 mL

If you have questions please do not hesitate to contact a member of the pharmacy team.