ADULT MEDICATION GUIDELINE	
Goserelin (Zoladex®)	
Scope (Staff):	All WNHS Staff
Scope (Area):	Obstetrics and Gynaecology
This document should be read in conjunction with the Disclaimer.	

Quick Links

Dose	Administration	Monitoring	Pregnancy and Breastfeeding

Restrictions

Formulary: Restricted

Medication Class

Gonadotrophin releasing hormone (GnRH) agonist

Presentation

Subcutaneous Implant (prefilled syringe): 3.6mg, 10.8mg

Storage

Store at room temperature, below 25°C

Dose

Indications applicable at WNHS

Endometriosis

Route: Subcutaneous Implant

Dose: Refer to Endometriosis quick reference guide (QRG): Goserelin prescribing protocol.

Note: PBS approved for initiation. Must be visually proven and treatment can only be short-term (only 1 course of a maximum of 6 months duration will be authorised)

Other Gynaecological Indications:

Treatment of proven endometriosis following laparoscopy under direction of a gynaecologist

Treatment of heavy uncontrolled bleeding from fibroids under direction of a gynaecologist

Reduction in uterine fibroid size prior to surgical management under direction of a specialist obstetrician

Route: Subcutaneous Implant

Dose: Refer to KEMH Clinical Practice Guideline "Gynaecology (Non-oncological): Goserelin prescribing protocol"

Other gynaecological conditions not listed above require Individualised Patient Approval

Administration

SUBCUT injection, ready to use:

Administer goserelin as a subcutaneous injection into the anterior abdominal wall (below the umbilicus).
Patient's may be offered, but not necessarily recommended the choice of a local anaesthetic (e.g. EMLA Patch, Lidocaine 1%) to the injection site prior to inserting goserelin (Zoladex) implant.

- Apply local anaesthetic (e.g. EMLA®, lidocaine 1%) to the injection site (if indicated) and wait for it to take effect. If a local anaesthetic is indicated, it may be prescribed as "Goserelin with local anaesthetic Emla® patch", or "Goserelin with local anaesthetic lidocaine 1%"
  - Emla® patch: Apply to injection site an hour before procedure.
  - Lidocaine 1%: 1-2mL lidocaine 1% subcut prior to inserting goserelin implant
- An ice pack with no local anaesthetic may also be used.
- Wipe residual topical anaesthetic cream from chosen injection site (if used).

Correct technique:

- Put patient in a comfortable position with upper body slightly raised.
- Swab abdominal injection site below the navel line.
- Open pouch at the arrows and remove syringe.
- Hold the syringe at a slight angle to the light.
- Check that at least part of the goserelin implant is visible.
- Grasp the plastic safety tab and pull away from the syringe and discard.
- Remove the needle cover. Unlike liquid injections, there is no need to remove air bubble

and attempts to do so may displace the implant.

- Pinch the patient's skin and insert the needle at a slight angle 30 to 45 degree to the skin, with the opening of the needle facing up, until the protective sleeve touches the patient's skin.
- Do not penetrate into muscle or peritoneum.
- To discharge goserelin implant and to active the protective sleeve, depress the plunger until you cannot depress it any further. If the plunger is not depressed fully the protective sleeve will NOT activate. You may hear a click and will feel the protective sleeve automatically begin to slide to cover the needle.
- Withdraw the needle and allow the protective sleeve to continue to slide and cover the needle.
- Using a piece of gauze, apply pressure over puncture site to minimise bleeding, then dress site with band-aid or gauze/adhesive tape.
- Rotate the injection site each time to avoid soreness at any one site.

Click here for step-by-step administration guide and video

Injection may be painful for patient. Other pharmaceutical strategies for managing injection pain include:

- Oral paracetamol before injection and at appropriate time intervals afterwards as required;
- Nitrous oxide (Entonox) during the injection procedure.

PREPARATION: No refrigeration or premixing is required with Zoladex—the siliconized hypodermic needle with easy-glide SafeSystem comes ready to administer.

ADMINISTRATION

1 Clean an area of the anterior abdominal wall (below the navel) for injection using an alcohol swab.

2 Inspect the foil pouch and syringe for damage. Remove the syringe from the pouch and hold it at a slight angle to make sure part of the implant is visible. Remove the plastic safety tab and needle cover.

3 **Pinch the patient's skin** using aseptic technique at the prepared injection site, and hold the needle with the **bevel facing up** at an injection **angle of 30°-45°**.

NOTE: Extra care should be taken with patients with low BMI and/or patients receiving a full dose of anticoagulation.

4 **Insert the needle**, with the bevel facing up, until the protective sleeve touches the patient's skin. Take care not to penetrate the muscle or peritoneum.

NOTE: If the needle penetrates a large blood vessel, blood will immediately be seen in the syringe chamber. If this occurs, withdraw the needle and inject a new syringe at a new location. Monitor patients for signs of abdominal hemorrhage.

5 **Depress the plunger** until you hear a "**CLICK**." The click ensures the SafeSystem has been activated and the implant has been deposited in the correct location.

6 **Withdraw the needle** and allow the protective sleeve to slide and cover the needle; dispose in an approved sharps container.

Monitoring

Adverse effects:

Injection site injury & vascular injury including pain, hypersensitivity (including acute anaphylactic reactions), haematoma and haemorrhagic shock (see comments section below).

Hypoestrogenic adverse effects	Hot flushes, vaginal dryness, decreased libido, mood swings, breast tenderness, headaches, bone mineral depletion, amenorrhea. To minimise adverse effects, addback therapy is usually commenced. Options included tibolone or oral hormone replacement therapy (HRT) with or without vaginal estrogen. See

	"Goserelin prescribing protocol: Goserelin prescribing principles"
Bone mineral density (BMD) depletion	*Women at risk of low BMD, e.g. weight-related amenorrhoea, immobilisation, corticosteroid use, family history of osteoporosis* - additional risk of decreased BMD. BMD scan recommended before and during treatment. **Consider daily oral supplements of at least calcium 500 mg and vitamin D 400 International Units for the duration of the therapy.** Lifestyle modification including regular exercise, particularly weight bearing exercises should be encouraged.
Symptom flare	A flare may develop during the first 2 weeks of treatment, which may cause increased endometriotic symptoms and lesions in patients with endometriosis.
Hyperglycaemia	Monitor blood glucose and HbA1c periodically.
Prolonged QT/QTc interval	Goserelin may prolong the QT/QTc interval: consider periodic monitoring of ECH & electrolytes in patients with congenital long QT syndrome, congestive heart failure, frequent electrolyte abnormalities, and those taking drugs known to prolong the QT interval (e.g. azole antifungals, tricyclic antidepressants, antiarrhythmics)**.**
Cervical resistance	Caution recommended when dilated cervix for endometrial ablation.
Duration of treatment	Maximum duration of treatment is 24 months.

Pregnancy

Goserelin

1st Trimester: Contraindicated

2nd Trimester: Contraindicated

3rd Trimester: Contraindicated

Effective nonhormonal contraception must be used by all premenopausal women during Goserelin therapy and for 12 weeks following discontinuation of therapy.

For more information, please contact KEMH Obstetric Medicines Information Service.

Breastfeeding

Goserelin

Consider alternative

For more information, please contact KEMH Obstetric Medicines Information Service.

Comments

In very rare cases, administration error has resulted in vascular injury and haemorrhagic shock requiring blood transfusions and surgical intervention. Extra care should be taken when administering goserelin to patients with low BMI &/or receiving full dose anticoagulation.

Goserelin is contraindicated in unexplained vaginal bleeding, or known hypersensitivity to LHRH, LHRH agonist analogues or any of the components of Zoladex®.

Consider daily oral supplements of at least calcium 500 mg and vitamin D 400 International Units for the duration of the therapy

Related Policies, Procedures & Guidelines

WNHS Clinical Practice Guidelines:

"Gynaecology (Non-oncological): Goserelin prescribing protocol"

WNHS Pharmaceutical and Medicines Management Guidelines:

Return & Disposal of Medications

References

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NSQHS Standards Applicable:	☒ Std 1: Clinical Governance ☐ Std 2: Partnering with Consumers ☐ Std 3: Preventing and Controlling Healthcare Associated Infection ☒ Std 4: Medication Safety			☐ Std 5: Comprehensive Care ☐ Std 6: Communicating for Safety ☐ Std 7: Blood Management ☐ Std 8: Recognising and Responding to Acute Deterioration	
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