Intramuscular Injection Techniques for the Administration of Sandostatin® LAR Depot (octreotide acetate for injectable suspension)

INDICATION AND USAGE
Sandostatin® LAR Depot (octreotide acetate for injectable suspension) is indicated for patients in whom initial treatment with immediate release Sandostatin® (octreotide acetate) Injection has been shown to be effective and tolerated for long-term maintenance therapy in acromegalic patients who have had inadequate response to surgery and/or radiotherapy or for whom surgery and/or radiotherapy is not an option (the goal of treatment in acromegaly is to reduce GH and IGF-1 levels to normal).

HIGHLIGHTS OF IMPORTANT SAFETY INFORMATION
• Treatment with Sandostatin LAR Depot may affect gallbladder function, glucose metabolism, thyroid and cardiac function, and nutritional absorption. Periodic monitoring is recommended.

Please see additional Important Safety Information on slides 4, 14, and 15.
Please see full Prescribing Information.
Objectives

Review techniques to ensure successful intramuscular (IM) injection of Sandostatin® LAR Depot (octreotide acetate for injectable suspension), including:

• Identifying a safe anatomical site
• Recognizing the muscles for safe IM injection
• Considering methods of skin preparation
• Learning how to avoid potential complications
• Understanding how to reduce patient discomfort

Reference
Sandostatin LAR Depot [prescribing information]. East Hanover, NJ: Novartis Pharmaceuticals Corp; 2014.

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Sandostatin® LAR Depot Indication

Sandostatin® LAR Depot (octreotide acetate for injectable suspension) is indicated for patients in whom initial treatment with immediate release Sandostatin® (octreotide acetate) Injection has been shown to be effective and tolerated for long-term maintenance therapy in acromegalic patients who have had inadequate response to surgery and/or radiotherapy or for whom surgery and/or radiotherapy is not an option (the goal of treatment in acromegaly is to reduce GH and IGF-1 levels to normal).

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Please see Important Safety Information on slides 4, 14, and 15. Please see full Prescribing Information.
Highlights of Important Safety Information

• **Warnings and Precautions**: Treatment with Sandostatin® LAR Depot may affect gallbladder function, glucose metabolism, thyroid and cardiac function, and nutritional absorption (periodic monitoring is recommended). Cardiac function: use with caution in at-risk patients.

• **Drug Interactions**: The following drugs require monitoring and possible dose adjustment when used with Sandostatin LAR Depot: cyclosporine, insulin, oral hypoglycemic agents, beta-blockers, and bromocriptine.

• **Adverse Reactions**: The most common adverse reactions occurring in ≥20% of patients are: diarrhea, cholelithiasis, abdominal pain, and flatulence.

Reference
Sandostatin LAR Depot [prescribing information]. East Hanover, NJ: Novartis Pharmaceuticals Corp; 2014.

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Selecting the Site for Gluteal Injections

- The ventrogluteal site is preferred for deep IM injections
  - Offers greater thickness of muscle, narrower layer of fat, and is free of nerves and blood vessels
- Assess the patient’s status, weight, skin integrity, skin lesions, and other skin conditions that may affect the injection site

Reference
Locating the Ventrogluteal Site

Patient’s Position\(^1\):
Side-lying, flexed knee

Procedure\(^2\):
- Place palm of right hand on greater trochanter of patient’s left hip (or left hand to right hip)
- Extend index finger to touch the anterior superior iliac crest
- Stretch middle finger to form a V as far along the iliac crest as you can reach

References
Special Considerations in Elderly or Emaciated Patients

• Ensure pre-injection site disinfection

• “Bunching up” the skin may reduce pain

Reference
Applying Skin Compression

- Skin compression involves using the non-syringe hand to apply pressure evenly to the injection site
- In one study, skin compression was associated with higher rates of success in gluteal IM injections

Reference
Intramuscular Technique: Insert Needle at a 90° Angle to the Skin

- Use nondominant hand to spread the skin\(^1\)
- Use dominant hand to hold the syringe\(^1\)
- Hold syringe with thumb and forefinger\(^1\)
- Thrust needle quickly, firmly, and accurately\(^2\)

References
Aspirating for Blood

• Before the injection, pull the syringe plunger back for 5 to 10 seconds to create negative pressure in the tissue\(^1\)
• If blood appears, withdraw needle and prepare new injection
• If no blood appears, continue injecting slowly at a constant rate, until all medication is delivered\(^1\)
• Discard syringe and needle and monitor patient\(^2\)
• Record injection site and medication use in patient’s record\(^2\)

References
Tips to Reduce Patient Discomfort

- Prepare patients with appropriate information before the procedure\(^1\)
- Make the ventrogluteal site your first choice\(^1\)
- Position the patient so that the designated muscle group is flexed and therefore relaxed\(^1\)
  - The prone position encourages lying on the stomach and is believed to be relaxing for patients\(^1\)
- If cleaning the skin before needle entry, ensure skin is dry before injecting\(^2\)

References
Tips to Reduce Patient Discomfort (continued)

• Rotate sites so that right and left sites are used in turn, and document rotation
• Enter firmly; positioning the needle at a 90° angle
• Inject medication steadily and slowly, until all medication is delivered
• Withdraw needle at the same angle it entered
• Do not massage or rub the site afterwards
  – Apply gentle pressure with a gauze swab

Reference
Summary

• To administer IM injections of Sandostatin® LAR Depot, select the ventrogluteal site\(^1\)
• Consider the patient’s status, weight, and skin condition\(^1\)
• Insert needle at a 90° angle to the skin, using the dominant hand to inject and the nondominant hand to spread the skin\(^2\)
• Aspirate; if blood appears, withdraw the needle and prepare a new injection\(^2\)
• Discard the needle and syringe and monitor for potential side effects\(^2\)
• Note the injection site in the patient’s record\(^2\)

References
Sandostatin® LAR Depot
Important Safety Information

**Warnings and Precautions:**

- Gallbladder abnormalities may occur: Patients should be monitored periodically.
- Glucose Metabolism: Hypoglycemia or hyperglycemia may occur. Blood glucose levels should be monitored when Sandostatin LAR Depot treatment is initiated or when the dose is altered. Antidiabetic treatment should be adjusted accordingly.
- Thyroid Function: Hypothyroidism may occur. Baseline and periodic assessment of thyroid function (TSH, total and/or free T4) is recommended.
- Cardiac Function: Bradycardia, arrhythmia, conduction abnormalities, and other EKG changes may occur. The relationship of these events to octreotide acetate is not established because many of these patients have underlying cardiac disease. Use with caution in at-risk patients.
- Nutrition: Octreotide may alter absorption of dietary fats. Monitoring of vitamin B\(_{12}\) levels is recommended during therapy with Sandostatin LAR Depot. Patients on total parenteral nutrition (TPN) and octreotide should have periodic monitoring of zinc levels.

Reference
Sandostatin LAR Depot [prescribing information]. East Hanover, NJ: Novartis Pharmaceuticals Corp; 2014.

Please see additional Important Safety Information on slide 15.
Please see full Prescribing Information.
Important Safety Information (continued)

- **Drug Interactions:** The following drugs require monitoring and possible dose adjustment when used with Sandostatin LAR Depot: cyclosporine, insulin, oral hypoglycemic agents, beta-blockers, and bromocriptine. Octreotide has been associated with alterations in nutrient absorption, so it may have an effect on absorption of orally administered drugs. Drugs mainly metabolized by CYP3A4 and which have a low therapeutic index should be used with caution.

- **Adverse Reactions:** The most common adverse reactions occurring in patients receiving Sandostatin LAR Depot were biliary abnormalities (52%), diarrhea (36-48%), cholelithiasis (13-38%), abdominal pain or discomfort (11-29%), flatulence (26%), influenza-like symptoms (20%), constipation (19%), headache (15%), anemia (15%), hyperglycemia (15%), injection site pain (2-14%), hypertension (13%), dizziness (12%), fatigue (11%), nausea (10%), vomiting (7%), hypothyroidism (2%), hypoglycemia (2%), and goiter (2%).

Reference
Sandostatin LAR Depot [prescribing information]. East Hanover, NJ: Novartis Pharmaceuticals Corp; 2014.

Please see additional Important Safety Information on slide 14.
Please see full Prescribing Information.