

## C3

### Gluteal Intramuscular Injections: Techniques Associated with Successful Octreotide LAR Injection

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**Background:** Gluteal intramuscular injection remains an important method for delivery of a variety of medications including octreotide LAR. In one study, only 32% of gluteal injections were delivered into the intramuscular space (Chan et al, Eur J Radiol. 2006). We examined nursing factors that are associated with successful gluteal intramuscular injections.

**Methods:** Patients receiving intramuscular injection of octreotide LAR at the Gastrointestinal Center, University of Texas M. D. Anderson Cancer Center were identified. Pelvic CTs were reviewed for evaluation of injection success, measurement of injection depth, and skin to muscle depth.

**Results:** 22 Nurses were interviewed. 251 intended intramuscular injections between 12/21/2005 and 6/25/2008 were evaluable by CT. 105 (42%) Were associated with subcutaneous nodules indicating subcutaneous placement; 146 (58%) were deemed successful intramuscular injection. Factors associated with successful intramuscular injection included self-reported indicators of experience, landmark based localization of injection site, depth of needle insertion, and use of non-syringe hand.

**Conclusion:** A significant number of octreotide LAR injections are not successfully delivered into the intramuscular space. Nursing experience and injection technique were highly associated with successful injection. Nursing education may improve successful intramuscular injection rate.

Self-reported parameter	Group	IM success rate	P
Indicators of experience			
Experience with IM injection	Moderate	44%	0.008
	Very	63%	
Frequency of IM injection	Few per year	29%	0.007
	Monthly	63%	
	Daily/weekly	60%	
Comfort with LAR injection (Scale 1 - 10)	1-9	40%	<0.001
	10	74%	
Technique			
Injection site selection	Landmark*	71%	<0.001
	Landmark* + other	38%	
	Upper outer quadrant	30%	
	Other	50%	
Depth of needle placement	Full needle length	57%	0.031
	To resistance	20%	
Needle insertion speed	Quick	63%	<0.001
	Slow/steady	31%	
Use of non-syringe hand	Compress tissue	92%	<0.001
	Stabilize tissue	44%	
	Pinch tissue	39%	

\*Bony landmarks, greater trochanter to posterior superior iliac spine.