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# Characteristics of responders and non-responders to diagnostic intra-articular injections in patients with long-standing hip and groin pain

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# CONCLUSIONS

Responders to intra-articular injections have higher baseline pain and less internal rotation in a neutral hip position. Demographic factors, range of motion tests, FADDIR, HAGOS subscales, and alpha angle may not differ significantly between responders and non-responders.

## BACKGROUND

Longstanding hip/groin pain (LHGP) is a diagnostic challenge. Intra-articular injection of anesthetics has been reported to have high diagnostic accuracy when compared to arthroscopic findings of intra-articular pathology. The aim of our study is to describe patient characteristics, x-ray and clinical examination findings and patient-reported outcome measures (PROMs) of responders and non-responders to guided intra-articular injection of anesthetics to the hip joint in patients with LHGP.



## METHODS

Participants were recruited from an orthopedic department. Exclusion criteria were previous hip surgery, hip or lumbar pathology. The patients completed the HAGOS and were assessed with a digital inclinometer for hip ROM and the FADDIR test. The alpha angle was calculated in a Lauenstein projection x-ray. Participants received a guided intra-articular injection, confirmed by injection of 1-2ml of contrast agent prior to the injection of local anesthetics. Pain was recorded before injection and after 1, 2 and 4 hours. >50% decrease in pain at some point during the 4 hours after injection was considered a responder.

Figure 21. Flouroscopic imaging of contrast injection

## **RESULTS**

Statistically significant higher baseline pain and lower ROM in internal rotation with the hip in a neutral position were observed in the responder group. No differences were observed between groups in age, BMI, the HAGOS subscales, alpha angle, FADDIR or other ROM (Table 1).

### Sample

Inclusion: >3 months hip/groin pain 18-55 years

#### **Exclusion:** Hip OA, previous surgery or injection to hip.

**Examination** Patient-reported outcome measure: HAGOS

**Range of motion:** Hip ROM with digital inclonmeter

> **Provocation tests:** FADDIR

**Imaging:** Alpha-angle, measure with X-ray in lauenstein and lateral view

Table 1. Patient characteristics and examination data					
	Responders		Non-responders		
	Participants, ı (Hips, n)	า Mean (SD)	Participants, (Hips, n)	n Mean (SD)	95% CI
Age	39 (NA)	36.4 (9.3)	20 (NA)	35.8 (9.6)	-4.6;5.4
Males, n (%)	39 (NA)	22 (56%)	20 (NA)	8 (40%)	
BMI	39 (NA)	25.4 (4.2)	20 (NA)	24.7 (4.2)	-1.4;1.9
Base-line pain	39 (44)	59.4 (22.2)	20 (24)	46.1 (22.2)	1.8;24.7
HAGOS					
Symptoms	36 (NA)	56.5 (15.0)	15 (NA)	51.7 (20.4)	-5.6;15.1
Pain	36 (NA)	57.3 (17.7)	15 (NA)	52.2 (20.0)	-6.2;16.5
ADL	36 (NA)	64.2 (22.3)	15 (NA)	53.7 (25.8)	-3.9;23.9
Sports	36 (NA)	46.9 (23.2)	15 (NA)	45.2 (24.5)	-12.9;16.2
PA	36 (NA)	29.9 (29.2)	15 (NA)	30.8 (14.5)	-18.9;17.0
QoL	36 (NA)	28.1 (15.9)	15 (NA)	34.7 (33.5)	-6.5;12.6
FADDIR positive, n (%)	39 (44)	37 (84%)	20 (25)	19 (76%)	
Alpha angle, degrees	39 (41)	60.7 (15.1)	20 (20)	54.8 (11.5)	-1.7;13.5
ROM, degrees					
Flexion	39 (43)	76.6 (10.1)	19 (24)	74.7 (6.5)	-2.6;6.5

