

# **Clinical examination of the painful coccyx**

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Cite: Maigne, J-Y. Clinical examination of the painful coccyx. In: Maigne JY and Doursounian L (eds) Coccyx Disorders. Proceedings of the First International Symposium on Coccyx Disorders, Paris, 2016. pp 37-43.

# CLINICAL EXAMINATION OF THE PAINFUL COCCYX

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## INTRODUCTION

Clinical examination of the patient with a painful coccyx is the first stage of managing a patient with coccygodynia. The results of this examination should be compared with those of dynamic films and sometimes of MRI or CT scans, so as to establish as accurate a diagnosis as possible.

## HISTORY-TAKING

History-taking is the first stage. The patient should be asked to point to their pain with a finger. Coccyx pain does not radiate. It is therefore important to check that there is no anal, perineal or buttock pain. The presence of associate lumbago is common. It may be unrelated to the coccyx pain since back pain is common, or it may be caused by a poor sitting position adopted by the patient to avoid pain.

The positional nature of the pain is of fundamental importance. It occurs while sitting and disappears while standing. A few variations exist. Most often, the pain occurs immediately upon, or after a few minutes of, sitting. In a few cases, it occurs after more than 30–60 minutes of sitting. The probability of identifying a causal coccygeal lesion is then reduced. It appears that soft surfaces are

less well tolerated than firm surfaces by patients with a coccygeal spicule or coccygeal retroversion. The likely explanation is that the patient sinks in deeper and that the tip of the coccyx then comes into contact with the seat surface.

Pain upon arising is defined by the onset of pain while arising from a seat, and is more intense (although brief) than pain while sitting (1). The presence of pain while arising is strongly associated with the existence of a causal radiological lesion, before any dislocation. In some cases, night-time pain, particularly in the dorsal decubitus, or pain when walking, attributed to the alternate contraction of the gluteus maximus muscles which have a coccygeal insertion – a mechanism that was first described in 1770 – has also been reported (2).

The initial cause is often a fall or direct shock. Imputability is only possible if the trauma happened less than one month before the start of coccygodynia; on this basis, post-traumatic cases account for 30% of all cases (3). Childbirth is the second most common cause (12 cases, namely 9%, in an unpublished series of 138 patients), with the use of forceps as a main risk factor. Weight loss is the third most common cause (10 cases, 7%), characterised by coccygeal spicules and coccygeal retroversion. There are also circumstances of onset, described by patients, for which the cause is difficult to evaluate as the mechanism is not obvious. These include riding a bicycle, pelvic surgical procedures (hysterectomy, laparoscopy, cystoscopy, haemorrhoid treatment, caesarean section, and others), operations for back pain (discectomy, fusion) and major psychological trauma.

Duration of progression from the start has a prognostic value. The very chronic forms, progressing for many years, do not respond well to manual therapy (4). This also appears to apply to infiltrations.

The body mass index (BMI) should be calculated. Overweight patients (BMI > 27) have an increased risk of dislocation, while slim patients (BMI < 21) have an increased risk of coccygeal spicule or coccygeal retroversion (1,3).

## EXAMINATION

Once the patient is lying face down on their stomach, they are again asked to accurately pinpoint their pain. Posterior dislocations hurt above the coccyx, while spicules hurt at the tip. Identifying a skin abnormality [Fig 1], such as a pilonidal sinus, or an attenuated form of the latter (a simple indentation of the skin), is most important.



Figure 1. Four examples of skin abnormalities corresponding to the presence of a coccygeal spicule or coccygeal retroversion. Top left, pilonidal sinus; two attenuated forms. Bottom right, simple skin irritation caused by rubbing of the spicule.

In the case of a pilonidal sinus, particularly in a young subject whose pain is intense and has lasted a few days, any pus discharge – indicating the presence of an abscess – must be identified. Looking for a protrusion of a spicule or retroversion under the skin is also necessary [Fig 2].



Figure 2. Top left, protrusion of a spicule under the skin. Top right, protrusion of retroversion. Bottom left, protrusion of a spicule worsened by skin atrophy caused by the use of a long-acting steroid (triamcinolone) in another centre. Bottom right, large coccygeal retroversion.

## PALPATION

Palpation is first performed externally, particularly at the tip of the coccyx, to look for a spicule. We look for this shape abnormality because the provoked pain is of lesser value since the tip of the coccyx is very often sensitive to pressure in cases of coccygodynia – whatever the cause.

The most useful palpation is performed rectally. I believe that intrarectal examination should be contraindicated before age 20–25 years. Patient agreement is essential after a brief explanation of the relevance of this technique. In women, palpation of the coccyx is done easily. In men, this is still far from being the case. The male perineum is longer than the female perineum, and the male anus is often located further forward, and is therefore at a greater distance from the coccyx. However, the puborectalis muscle tone appears more significant in men, making backward movement of the index finger to palpate the coccyx more difficult [Fig 3].

The first objective of the intrarectal examination is to assess coccyx movement. From its neutral position, the coccyx can be pulled backwards or pushed forward. A weak movement backwards, useful during defecation or childbirth, is normal. It may be increased, with an abnormal movement

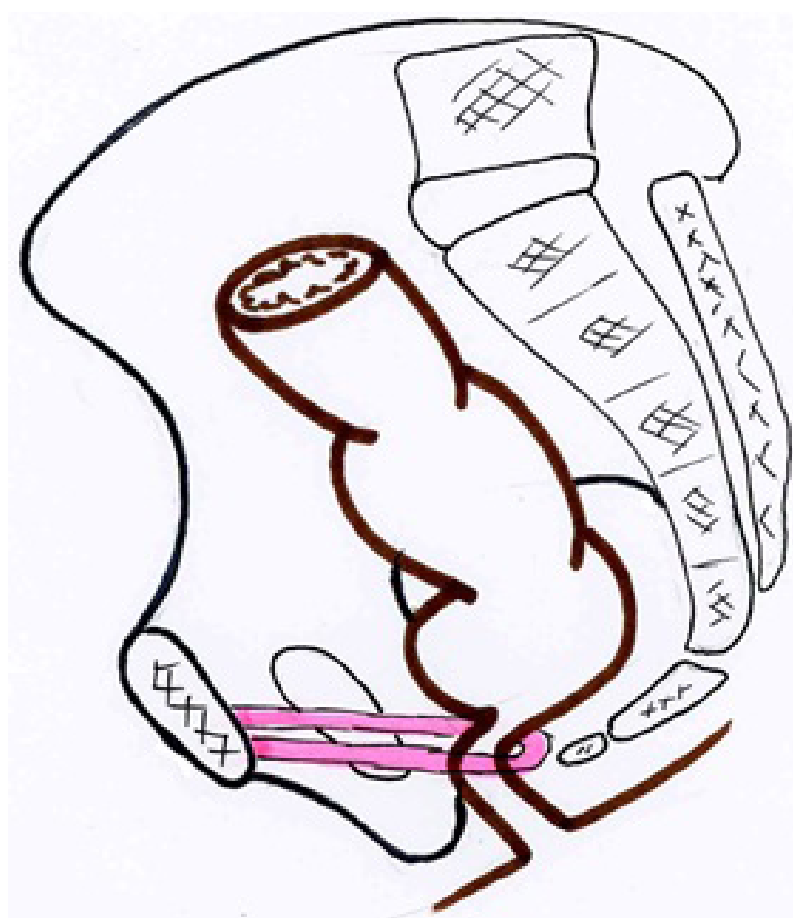


Figure 3. Muscles acting on the anorectal flexure.

pattern, in the case of posterior dislocation. However, it should be indicated that in male patients, the puborectalis muscle tone is such that it is often impossible to reproduce this abnormal displacement as the coccyx appears rigid during manual examination, even though dynamic imaging shows dislocation. Movement forward, physiological while sitting, may be abnormal or increased; the difference is difficult to perceive. It may be absent. In this case, the coccyx should be considered rigid from a functional viewpoint, even if it is mobile during extension.

The second objective of the intrarectal examination is to establish whether the ventral side of one of the discs is painful with applied pressure. The number of discs varies between zero and three, and even four. Attempt should be made to palpate them separately and identify whether one of them is particularly sensitive to pressure.

The third objective is to follow the caudal edge of the sacrospinous ligament to the sciatic spine with the finger, and to palpate the latter, around which the pudendal nerve passes. This palpation should not be especially sensitive in cases of coccygodynia.

Unusually, we have discovered inner tumours with this examination (one in a thousand cases) in patients suffering for a long time without ever having been examined.

## NEIGHBOURING STRUCTURES

Once the actual coccyx examination has been completed, it may be helpful to also examine the sacroiliac joints, the piriformis muscles and the lumbosacral region, especially if the patient does not appear to be typically coccygeal.

## SHORT PSYCHOLOGICAL ASSESSMENT

In patients for whom treatment failed, psychological factors may come into play with the chronicity, as with all cases of chronic pain. A depressive condition, recent psychological trauma or one dating back to childhood, and psychosocial factors are all elements that need to be identified. To assess the pain, its intensity, and the discomfort it contributes physically and psychologically, we use a visual scale and two questionnaires: one which we developed – called

the Paris questionnaire – based on ten points, and the other adapted from the items in the Dallas pain questionnaire related to coccygodynia (Appendix). The first questionnaire explores the physical repercussions, and the second one the emotional repercussions.

# CONCLUSION

A physical examination should not be neglected or performed too quickly. It is the first stage in managing a patient with coccygodynia.

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# APPENDIX

## Paris Questionnaire

Please circle the number that corresponds to the suggestion most indicative of your case. The total is out of 10 points.

### 1) When I am sitting

|                                     |   |
|-------------------------------------|---|
| I am not in pain                    | 0 |
| I am moderately uncomfortable       | 1 |
| I can only sit in certain positions | 2 |

### 2) When I am sitting

|                                                    |   |
|----------------------------------------------------|---|
| I am not in pain                                   | 0 |
| I am in pain after 30 minutes or more              | 1 |
| I am in pain very quickly, in less than 30 minutes | 2 |

### 3) Depending on the seat

|                                        |   |
|----------------------------------------|---|
| I am not in pain                       | 0 |
| I am only in pain on certain seats     | 1 |
| I am in pain whatever the type of seat | 2 |

|                                      |   |
|--------------------------------------|---|
| <b>4) When arising from a seat</b>   |   |
| I do not feel anything in particular | 0 |
| Arising from a seat hurts            | 1 |
| I am in intense pain when arising    | 2 |

|                                      |   |
|--------------------------------------|---|
| <b>5) When walking in the street</b> |   |
| My coccyx does not hurt              | 0 |
| I am in pain                         | 1 |

|                                                             |   |
|-------------------------------------------------------------|---|
| <b>6) At night</b>                                          |   |
| I am not in pain at night                                   | 0 |
| I sometimes feel pain at night,<br>depending on my position | 1 |

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**Dallas adapted questionnaire**  
For every question, tick the number that best corresponds to you, then add up the numbers. The total is out of 30 points.

|                                                                                                                                                                      |   |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| <b>Social activity.</b> How much does your pain interfere with your social life (dancing, games and entertainment, meals or evenings with friends, going out, etc.)? |   |
| Not at all                                                                                                                                                           | 0 |
| A little                                                                                                                                                             | 1 |
| Moderately                                                                                                                                                           | 2 |
| A lot                                                                                                                                                                | 3 |

|                                                                                       |   |
|---------------------------------------------------------------------------------------|---|
| <b>Travelling by car.</b> How much does your pain interfere with travelling in a car? |   |
| Not at all                                                                            | 0 |
| A little                                                                              | 1 |
| Moderately                                                                            | 2 |
| A lot                                                                                 | 3 |

**Answer the same question a second time** (it counts twice):      0    1    2    3

|                                                                                  |   |
|----------------------------------------------------------------------------------|---|
| <b>Professional activities.</b> How much does your pain interfere with your job? |   |
| Not at all                                                                       | 0 |
| A little                                                                         | 1 |
| Moderately                                                                       | 2 |
| A lot                                                                            | 3 |

|                                                                                             |   |
|---------------------------------------------------------------------------------------------|---|
| <b>Anxiety / mood.</b> How much control do you feel that you have over demands made on you? |   |
| Complete                                                                                    | 0 |
| Some                                                                                        | 1 |
| I find it hard                                                                              | 2 |
| I do not manage                                                                             | 3 |

|                                                                                                |   |
|------------------------------------------------------------------------------------------------|---|
| <b>Self-control.</b> How much control do you feel that you have over your emotional reactions? |   |
| Complete                                                                                       | 0 |
| Some                                                                                           | 1 |
| I find it hard                                                                                 | 2 |
| I do not manage                                                                                | 3 |

**Depression.** How depressed have you been since the onset of pain?

- Not at all 0
- A little 1
- Moderately 2
- A lot 3

**Relationships with others.** How much do you think your pain has changed your relationships with others?

- Not at all 0
- A little 1
- Moderately 2
- A lot 3

**Everyday support.** How much support do you need from others to help you since you have been in pain (chores at home, preparing meals, etc.)?

- Not at all 0
- A little 1
- Moderately 2
- A lot 3

**Adverse reactions from family and friends.** How much do you think your pain causes irritation, frustration or anger in others?

- Not at all 0
- A little 1
- Moderately 2
- A lot 3