Coccydynia: Tailbone Pain

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KEYWORDS

• Coccydynia • Coccygodynia • Coccyx • Pain • Coccyx pain • Tailbone
• Tailbone pain

KEY POINTS

- Coccyx pain (tailbone pain) substantially decreases the quality of life for patients who suffer with this condition.
- Classic symptoms include midline pain located below the sacrum and above the anus. Symptoms are usually worst while sitting or during transitions from sitting to standing.
- Physical examination typically reveals focal tenderness during palpation of the coccyx.
- Diagnostic tests typically should include radiographs (especially sitting-versus-standing radiographs to assess for dynamic instability). Advanced studies may include MRI, computerized tomography scans, or nuclear medicine bone scans.
- Treatments may include the use of cushions, medications by mouth, topical medications, local pain management injections, and (in rare cases) surgical removal of the coccyx (coccygectomy).

INTRODUCTION

The medical term "coccydynia" has multiple synonyms[1,2]:

- Coccygodynia
- Coccyx pain
- Tailbone pain

Coccyx pain has been called "the 'lowest' form of low back pain" because the coccyx is located at the most inferior tip of the spine.[3]

EPIDEMIOLOGY

Coccyx pain is far less common than pain in the lumbar spine, but there is a lack of exact data on its incidence. Although both women and men can suffer from coccyx pain, it occurs more commonly in women. The higher incidence in women may be

The author has nothing to disclose.
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Phys Med Rehabil Clin N Am ■ (2017) ■–■
http://dx.doi.org/10.1016/j.pmr.2017.03.006 **pmr.theclinics.com**

due to differences in the shape and angles of the female pelvis and, of course, the increased risks while giving birth.

ANATOMY

The coccyx is composed of a series of 3, 4, or 5 coccygeal vertebral bones.[4,5] Thus, it is a misnomer to refer to the coccyx as a single bone.[4] For this article, these bony segments are referred to as C1, C2, C3, C4, and C5. The coccyx is located in the midline, inferior to the sacrum and superior-posterior to the anus.[5]

In addition to the variability in the number of coccygeal bones, there is great variability in whether some or all of these bony segments are fused together.[6,7]

There are many similarities between coccygeal vertebral bones and vertebral bones throughout the cervical-thoracic-lumbar spine, such as the following[4]:

- A vertebral body for each bony segment
- Transverse processes bilaterally (typically only present on the first coccygeal bone, C1)
- Superior articular processes (SAPs) bilaterally (typically only present on C1, where they are referred to as the coccygeal cornua, or horns).

But there are also unique differences at the coccyx region.[4] Unlike the cervical-thoracic-lumbar spine, the coccygeal vertebral bones are unique in the following ways:

- They have no vertebral canal. (The spinal canal ends more superiorly, at the sacral canal. Thus, there is no cerebrospinal fluid at the level of the coccyx.)
- They have no neuroforamina.
- They have no significant superior articular processes, inferior articular processes, or transverse processes (except for the first coccygeal bone).
- Each coccygeal bone is typically smaller (in height and width) than the coccygeal bone above it.

Joints of the coccyx are as follows[4]:

- Sacrococcygeal joint (SCJ): this is actually a collection of joints in which the lower end of the sacrum articulates with the upper end of the coccyx. Similar to intervertebral articulations throughout the cervical-thoracic-lumbar spine, the SCJ includes the following: (1) the articulation between the fifth sacral (S5) vertebral body and the C1 vertebral body, and (2) the bilateral zygapophyseal joints (facet joints). These sacrococcygeal facet joints are composed of the bilateral inferior articular processes (IAPs) from S5 (better known as the sacral cornua, forming the lateral borders of the sacral hiatus) and the bilateral SAPs from C1 (better known as the coccygeal cornua, or horns).
- Intracoccygeal joints (including the intervertebral discs between the coccygeal vertebral bodies).

Ligaments that attach to the coccyx include the following[4]:

- Anterior longitudinal ligament (ALL, also known as the anterior sacrococcygeal ligament) spanning the front of the coccygeal bones
- Posterior longitudinal ligament (PLL, spanning the back of the coccygeal bones)
- Lateral sacrococcygeal ligaments, bilaterally (where the lower sacrum attaches to the ipsilateral transverse process of C1)
- Spinosacral ligaments, bilaterally (attaching the right and left ischial spines to the ipsilateral sacrum and coccyx)