

Low Back, Pelvis and Sacrum

Muscle overload, extension-related bone stress, nerve symptoms, and pelvic injury

Kinesphere Lab Editorial Team

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What this guide helps you do. Use this guide to distinguish ordinary load-related back pain from extension-related bone stress, nerve symptoms, pelvic or sacral bone pain, and red flags that require urgent evaluation.

Scope. Educational guidance for dancers, families, and teachers. It supports safer decisions and clearer communication; a clinician determines diagnosis and individualized restrictions.

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1 How to use this guide

This guide is designed for a dancer who has pain now, or who keeps developing the same problem. Its job is to help you describe the pattern, make a safe class decision, and communicate clearly with a parent, teacher, or clinician. It cannot determine the diagnosis from symptoms alone.

Key idea

Use four observations together: **exact location, how it began, which movement provokes it, and what happens later that day or the next morning.** One symptom by itself is rarely specific enough.

1.1 The four-question check

1. **Where?** Point with one finger. A one-fingertip spot on bone is more concerning than broad, symmetrical muscle soreness.
2. **When?** Sudden fall, twist, pop, collision, or landing; or gradual pain that built over several classes.
3. **What load?** Walking, stairs, plié, relevé, turnout, extension, jumps, pointe, floorwork, lifts, or repeated rehearsal.
4. **What response?** Better after warm-up, steadily worse with repetition, painful at rest, or worse the next morning.

MODIFY

Mild but recurring or movement-specific pain: remove the painful element and tell a teacher, parent, or guardian.

STOP

Pain changes technique, grows with repetition, causes limping, weakness, swelling, loss of motion, or instability.

SEEK CARE

Focal bone pain, deformity, inability to use or bear weight, locking, neurologic signs, rest/night pain, or a serious fall.

SEEK MEDICAL CARE

A dancer who is a minor should tell a parent or guardian about a significant injury. Urgent evaluation is appropriate for deformity, inability to use or bear weight on the part, rapidly increasing swelling, an open wound, a cold or pale limb, persistent numbness, progressive weakness, or serious head, neck, or spine symptoms.[1]

2 Know the region

The lumbar spine and pelvis transfer force between the trunk and legs. Dance asks the region to stabilize turnout, absorb landings, extend during arabesque and backbend, rotate during choreography, and support lifts. Low-back pain is common across ballet, modern, and hip-hop. In adolescents, repetitive extension and rotation raise concern for pars stress injury or spondylolysis, especially when pain is focal and activity related.[2–4]

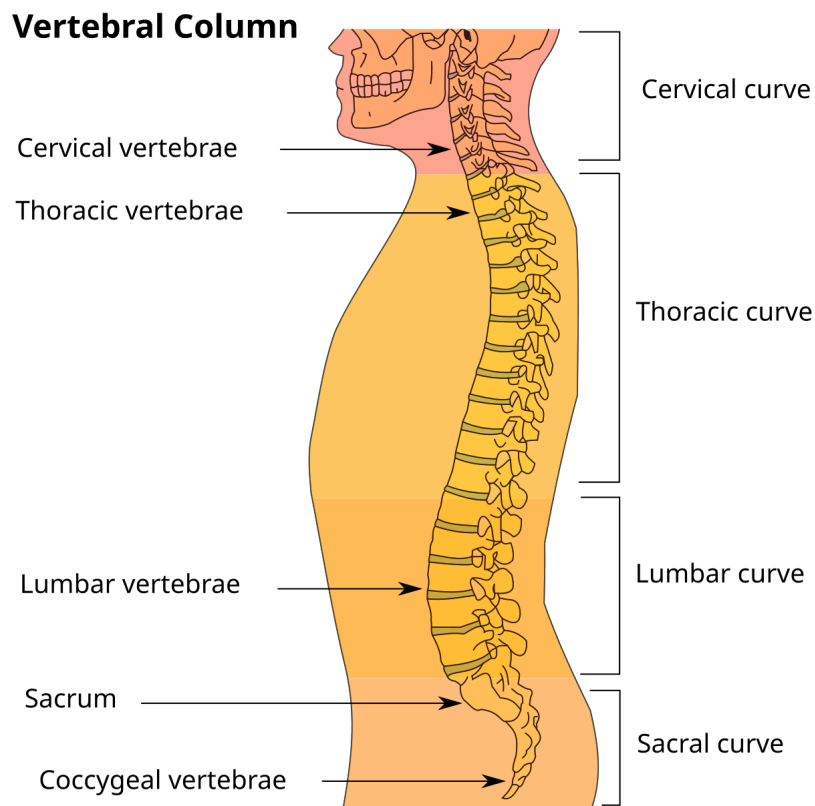


Figure 1. The vertebral column in side view. This guide focuses on the lumbar vertebrae, sacrum, and nearby pelvic structures, while symptoms spreading into a leg require attention to possible nerve involvement. Source: Arcadian and Pixelsquid, based on a U.S. government illustration; public domain, via the [Wikimedia Commons source page](#); white background and crop added.

In dance

An arabesque should distribute extension through the hip, thoracic spine, and lumbar spine with trunk and pelvic control. When hip extension or thoracic mobility is limited, the dancer may concentrate motion and force in the low back.^[5]

3 Find the symptom pattern

Location and behavior	Pattern it can resemble	Dance clues	First decision
Broad muscle ache after unfamiliar load	Muscular overload or strain	Fatigue, lifts, repeated extension, floorwork; movement remains controlled	Modify painful directions and monitor improvement
Focal one-sided or central low-back pain worse with extension/rotation	Pars bone-stress or spondylolysis pattern	Arabesque, cambre, backbend, walkover, repeated extension	Stop extension and obtain prompt assessment in adolescents

Pain radiating down leg with tingling, numbness, or weakness	Nerve or disc-related pattern	Flexion, impact, coughing, prolonged sitting may alter symptoms	Stop provoking movement and seek assessment
Pain near one sacroiliac region	Pelvic/SI-region pattern	Single-leg loading, turnout asymmetry, landing, pregnancy/-postpartum contexts	Modify asymmetrical load; assess persistent pain
Deep sacral or pelvic pain worsened by impact or walking	Bone-stress injury pattern	Jumps, running, one-leg loading; possible rest/night pain	Stop impact and seek prompt evaluation
Tailbone pain after fall	Coccyx contusion or fracture pattern	Sitting, floorwork, direct pressure	Avoid direct pressure and assess severe/persistent pain
Back pain with bowel/bladder change, saddle numbness, progressive weakness, fever, major trauma, or night/systemic illness signs	Serious spinal or medical condition	May be unrelated to dance load	Urgent or emergency evaluation

4 Common low-back, pelvis, and sacrum patterns

Muscular low-back overload

Usually feels like. Broad aching or tightness after increased rehearsal, lifts, floorwork, or repeated extension, without neurologic or systemic signs.

Do today. Reduce the painful direction and total load. Keep comfortable daily movement. Avoid forcing deep backbends or stretching into sharp pain.

Seek care when. Pain is focal, persistent, worsening, traumatic, or associated with rest/night pain or neurologic symptoms.

Spondylolysis or pars stress injury

Usually feels like. Insidious focal low-back pain, commonly worse with extension and rotation in a young athlete.

Why dancers matter. Dance is among sports that repeatedly load lumbar extension and rotation. Early recognition and activity modification matter.[3, 4]

Do today. Stop arabesque, cambre, backbends, walkovers, and other painful extension. Arrange prompt evaluation rather than repeatedly testing the range.

Disc or nerve-related pattern

Usually feels like. Back pain with pain traveling into the buttock or leg, tingling, numbness, weakness, or symptoms influenced by spinal position.

Do today. Stop the provoking movement and seek assessment. Avoid aggressive nerve stretching or spinal manipulation without evaluation.

Emergency signs. New bowel or bladder dysfunction, saddle-region numbness, or progressive weakness requires emergency evaluation.

Sacroiliac-region and pelvic load pain

Usually feels like. Pain near one posterior pelvic joint during single-leg stance, turnout, transitions, or asymmetric loading.

Why distinction matters. Pain near the SI region can originate from several tissues; self-correction or repeated twisting cannot reliably identify the cause.

Do today. Reduce asymmetrical loading, large turnout demands, and impact that reproduces pain. Seek assessment if persistent.

Sacral or pelvic bone-stress injury

Usually feels like. Deep localized sacral, buttock, groin, or pelvic pain that worsens with impact, one-leg loading, walking, rest, or night.

Action. Stop impact and arrange prompt sports-medicine assessment. Recurrent bone stress warrants review of training, recovery, nutrition, and bone health.[6, 7]

Coccyx injury after a fall

Usually feels like. Tailbone pain with sitting, rolling, or floor contact after a direct fall.

Do today. Avoid direct pressure and painful floorwork. Significant trauma, neurologic signs, or persistent severe pain warrants evaluation.

5 What to do today

5.1 Protect the irritated area from repeated testing

- ✓ End the movement that reproduces sharp, focal, unstable, or escalating pain.
- ✓ Tell the teacher exactly which movements provoke symptoms. Replace those movements rather than silently reducing their quality.
- ✓ Keep ordinary movement that is comfortable and does not worsen symptoms later, unless a clinician has instructed complete rest or protection.
- ✓ Record location, onset, swelling, bruising, clicking, weakness, and the next-morning response.
- ▲ Avoid repeatedly hopping, forcing range, stretching hard, rolling directly over a focal bone spot, or “checking” the injury every few minutes.
- ▲ Do not use pain medicine, tape, or a warm-up as proof that the tissue is ready for full dancing. Symptom masking can hide worsening load intolerance.

Why this matters

A short period of protected cold may reduce discomfort after an acute injury if skin sensation is normal and the cold source is wrapped. It does not accelerate every type of healing and it is not a readiness test. Swelling, function, location, and response to load matter more than whether the area feels temporarily numb.

5.2 Communication script

Practical script

“The pain is at [exact location]. It began [suddenly / gradually] during [movement]. It is [better / the same / worse] with walking and is [better / worse] the next morning. I also notice [swelling, bruising, weakness, clicking, locking, numbness, or none]. I need to remove [specific movement] until this is assessed or settles.”

6 Back- and pelvis-specific class modifications

MODIFY AND REPORT

Possible substitutions include neutral-spine barre, smaller arabesque, reduced cambre and rotation, marking choreography without backbend or floor impact, and upper- or lower-body work that preserves a comfortable trunk position. Some conditions require removal from dance rather than local modification.

STOP THE PROVOKING ACTIVITY

Stop if pain becomes sharp or focal, increases with each extension, spreads into a limb, causes weakness or numbness, or changes walking and trunk control.

SEEK MEDICAL CARE

Prompt evaluation is appropriate for adolescent extension-related pain, pain lasting more than a short self-limited period, impact-related sacral or pelvic pain, radiating pain, or symptoms after significant trauma. Emergency evaluation is required for bowel/bladder change, saddle numbness, progressive weakness, fever with severe back pain, or major neurologic/circulation signs.[1, 3]

7 Returning to dance

Return should be based on function and symptom response rather than the number of days since the pain began. Dance-medicine literature supports staged progression from basic movement to dance-specific demand rather than a direct jump into full class.[5]

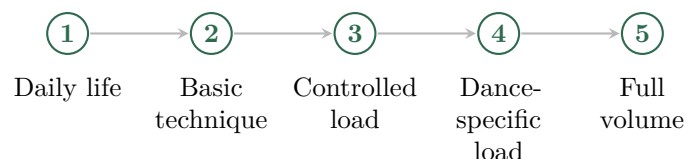


Figure 2. General return sequence. Advance only when the current step is controlled and does not create a meaningful symptom increase later that day or the next morning. Region-specific restrictions take priority.

Key idea

A stage is tolerated only when symptoms remain acceptable **during the activity, later that day, and the next morning**. New swelling, limping, altered alignment, loss of control, or a clear pain increase means the load exceeded current capacity.

7.1 Back, pelvis, and sacrum progression

1. Comfortable walking, sitting, sleeping, and basic trunk motion permitted by the diagnosis.
2. Trunk and hip control in low-load positions.
3. Neutral-spine barre and centre work.
4. Gradual rotation and hip extension without lumbar compensation.
5. Small jumps and basic turns with stable trunk control.
6. Arabesque and cambre range added gradually when permitted.
7. Large jumps, floorwork, lifts, and repeated extension choreography.
8. Full rehearsal volume without pain escalation or next-day stiffness beyond the accepted plan.

Common mistake

A deeper backbend is not evidence that the spine is healthy. A dancer can retain large range despite a stress injury. Pain pattern, load response, neurologic signs, and medical restrictions determine safety.

8 Reducing recurrence

No single stretch, shoe, or screening test prevents every dance injury. The most useful prevention system combines load management, technique, physical capacity, recovery, and early communication.[8, 9]

1. **Track meaningful load changes.** New pointe work, more jumps, longer rehearsals, harder flooring, a role change, a growth spurt, and added cross-training can all increase tissue demand.
2. **Build capacity outside choreography.** Strength, balance, landing control, trunk control, and gradual exposure give tissues a larger margin before fatigue changes technique.
3. **Use available range rather than forcing an ideal.** Turnout, extension, pointe range, and back extension should come from the joints that possess that motion, with control.
4. **Recover enough to adapt.** Sleep, rest days, and regular meals and snacks support repair. Recurrent bone-stress injuries, persistent fatigue, declining performance, delayed or disrupted menstrual function, or other signs of under-fuelling deserve confidential medical and nutrition support.[7, 10]
5. **Report early.** A small, repeatable symptom is easier to modify than a pattern that has already changed walking, class technique, or sleep.

9 Bring this information to an assessment

Exact location	_____
Date and mechanism of onset	_____
Sudden or gradual	_____
Dance movements that provoke it	_____
Walking, stairs, sleep, or rest symptoms	_____
Swelling, bruising, clicking, locking, weakness, numbness	_____
Recent change in class, rehearsal, pointe, jumps, floorwork, lifts, or cross-training	_____
What improves it; what worsens it the next morning	_____
Prior injury to the same area	_____

Key idea

Bring shoes or equipment associated with the symptoms when useful, and bring a short video only if recording was safe and the movement did not require provoking a potentially serious injury again.

10 Evidence scope and limitations

This guide prioritizes dance-medicine reviews, pediatric and sports-medicine guidance, clinical practice guidelines, and authoritative professional resources. Research on dancers is uneven across genres and body regions; evidence from related weight-bearing or artistic sports is used only where the mechanical demand is clearly similar. Individual diagnosis, imaging, treatment, and return restrictions belong to a qualified clinician who can examine the dancer.

Key idea

Medical review date: July 2026. Suggested review cycle: every two years, or sooner when a major guideline changes. Kinesphere Lab should obtain review by a physician or physical therapist with dance-medicine experience before studio-wide clinical distribution.

Selected evidence and guidance

- [1] American Academy of Pediatrics. *After a Sports Injury: When to See the Doctor*. 2025. URL: <https://www.healthychildren.org/English/health-issues/injuries-emergencies/sports-injuries/pages/After-a-Sports-Injury-When-to-See-the-Doctor.aspx> (visited on 07/18/2026).

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- [11] International Association for Dance Medicine and Science. *Technique Class Participation Options for Injured Dancers*. 2025. URL: <https://iadms.org/media/24lfewse/iadms-resource-paper-technique-class-participation-for-injured-dancers.pdf> (visited on 07/18/2026).

