

Beyond the X-ray: What flamenco taught an orthopaedic surgeon



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The sun was descending toward the Mediterranean when the flamenco festival began in Alicante. The city glowed in amber light, and the air carried the restless energy of anticipation. On the stage stood a young man and a woman, facing one

another—not touching—but held together by gaze alone.

As an orthopaedic surgeon, I spent decades studying alignment: the precision of a joint, the axis of a limb, the balance of posture. That evening, I noticed alignment of another kind—emotional, kinetic, unspoken.

The dancer's spine was erect, her head poised with quiet authority. She stood elevated on narrow heels, yet perfectly stable. Years of disciplined training were evident in the effortless equilibrium of her body. The intrinsic muscles of the foot do not lie; they reveal whether grace is borrowed or earned.

When the music began, the stage transformed.

The young man's heels struck the wooden platform in rapid, percussive rhythm. To the audience, it was sound and spectacle. To me, it was biomechanics rendered visible: metatarsals absorbing impact, Achilles tendons recoiling with elastic precision, knees flexing just enough to dissipate force without strain. The movements were explosive yet controlled, intense yet measured.

There was no visible tension—only command.

Her dress swirled in arcs of red and black, but beneath the fabric lay extraordinary neuromuscular discipline of core stabilization, of pelvic control, of scapulothoracic coordination. The dance was not chaos. It was structure under pressure.

As the performance intensified, I found myself reflecting on the nature of what I was witnessing. In the operating theater, precision determines outcome. One millimeter too deep, one degree misaligned, and the balance of a joint is altered. Here, too, timing governed everything. Every strike of heel, every pause, every turn depended on exact calibration.

Yet unlike surgery, this calibration was not guided by imaging or instruments. It was embodied.

Later that evening, at the villa where my wife and I were staying, I stood before a life-sized painting of the same dancer. The brushstrokes captured her in mid-movement, ankle extended in perfect plantar flexion. As I studied the curve of her foot, I heard a voice behind me.

"You want to know who she is?"

Andrea, the villa owner, introduced her as his daughter, Maya—the very dancer I had watched on stage. He spoke with quiet pride of how his children had grown up in a household filled with music. Dance, he explained, was not performance alone; it was discipline woven into daily life. I imagined young bones adapting to repetitive load, tendons strengthening under stress, neural pathways refining through repetition. The art had shaped not only their identities, but their musculoskeletal architecture.

Flamenco had been etched into their bodies.

When I later spoke with Maya on the terrace overlooking the sea, she noticed the camera hanging from my neck.

"You cannot capture dancers in a photograph," she said gently. "Movement dies the moment you freeze it."

Her words resonated more deeply than she could have known.

In my profession, I rely on still images—X-rays, CT scans, MRIs. These reveal structure with remarkable clarity. They show fractures, degeneration, inflammation. But they do not reveal aspiration. They do not show devotion. They cannot measure the meaning of movement in a person's life.

An X-ray may confirm union, but it cannot capture resilience.

As we spoke, Maya described the demands of her art—the relentless rehearsals, the physical toll, the blisters and strain that accompany mastery. "The stage has seen my ordeal," she said quietly. "It has seen my graceful leaps and never asked about my feet."

I thought of the dancers and athletes I have treated over the years—stress fractures, torn ligaments, inflamed tendons. I have repaired their structures and guided their rehabilitation. But listening to her, I recognized something I had too often overlooked: injury is not merely mechanical disruption. It interrupts identity.

For Maya, movement was not recreation. It was language. It was vocation.

Flamenco, I realized, is disciplined stress—repeated impact transformed into expression. The body endures microtrauma, yet through adaptation and training, it emerges stronger, more precise. In this way, it mirrors orthopaedic practice itself. Bone remodels in response to load. Tendons strengthen under tension. The body, when guided wisely, adapts.

But adaptation is not purely physical. There is resolve behind it—resolve that cannot be grafted, sutured, or implanted. It must be cultivated.

As my wife and I walked along the shore later that night, she remarked that Maya seemed like Cinderella—commanding her stage rather than a ballroom. I considered instead the deeper meaning of her name. In Sanskrit, Maya refers to illusion—something that appears real and fixed yet is constantly changing and ultimately transient.

The human body is much the same. Cells regenerate. Bone remodels. Cartilage wears and adapts. Nothing remains static. Each movement exists only once, never to be repeated in precisely the same way.

In medicine, we often seek permanence—stable fixation, durable implants, lasting correction. Yet watching flamenco reminded me that life itself is dynamic. The goal is not immobility, but sustainable motion.

I have dedicated my career to preserving movement—restoring fractured limbs, reconstructing joints, stabilizing instability. For years, I measured success in

radiographic alignment and range-of-motion charts. If the imaging looked satisfactory and the joint moved within expected degrees, I felt the task was complete.

That evening in Alicante expanded that view.

Movement is not simply a mechanical outcome. It carries memory, discipline, sacrifice, and meaning. When a dancer injures her foot, she does not merely lose function; she risks losing expression. When a laborer tears a ligament, he does not only lose stability; he risks losing livelihood.

The body is not only structure. It is purpose in motion.

Since that night, I find myself asking different questions in clinic. Beyond assessing swelling or alignment, I ask: What does this movement allow you to be? What does its loss take away? Restoration, I have come to understand, is not only about returning anatomy to baseline. It is about returning people to the roles that give their lives coherence.

The dancer taught the surgeon something simple yet profound: while we treat bones and tendons, we serve human aspirations.

Imaging will always remain indispensable. Technique will always matter. Precision will always be the foundation of orthopaedic practice. But precision without perspective is incomplete.

Watching flamenco did not alter my surgical methods. It altered my awareness.

When I now observe a patient walk across the clinic floor, I no longer see only gait mechanics. I see the fragile continuity of identity expressed through movement. I am reminded that beneath every joint I repair lies a story that cannot be captured on film.

Flamenco was not merely a performance. It was a reminder that preserving motion is, at its core, an act of respect—for the life that moves within the anatomy we so carefully reconstruct.

Delivering

The obstetrician:

Failure to progress.
Decels. Nonreassuring.
We need to section.

Me, the patient:

Love? Come back. Right now.
Mom? I'm fine. Nothing is wrong.
Sis? It's emergent.

Me, the physician:

Here is the number
for ECMO. And CMO.
I'm scared. I love you.

Heard & Thought in the OR:

Hemorrhage. Suction.
How much neo am I on?
Blood loss 1.5.

Nuchal, times one, times
two ... Times three
A cry. Times two, three.

—Suchita Shah Sata, MD

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