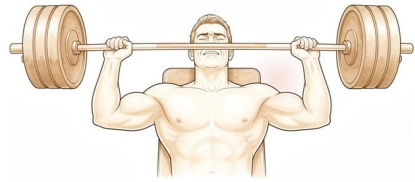


Pectoralis Major Rupture

Pectoralis major rupture: the chest muscle tears near where it attaches to the arm, classically during a heavy bench press.

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What you're feeling

Most people remember the exact moment. Often it happens during a heavy bench press, just as the bar is being lowered to the chest, and there's a sudden pop or tearing sensation at the front of the shoulder, with a sharp burst of pain. Within a day or two bruising spreads down the front of the arm and across the chest, and the area swells.

As the swelling settles, you may notice the shape of your chest has changed. The normal firm fold at the front of the armpit can flatten or disappear, and the muscle itself may bunch up toward the breastbone, looking or feeling different from the other side. Pushing movements feel weak: closing a heavy door, pressing up out of a chair, or bringing the arm across your body into a hug no longer have their usual power. Some of that early weakness is simply pain, but a genuine loss of pushing strength tends to persist.

What's actually happening

The pectoralis major is the big, fan-shaped muscle of the chest. It powers the arm in three main ways: **pushing** things away from you, **hugging** the arm across the body, and **rotating** the arm inwards. The muscle narrows into a strong tendon that anchors onto the upper arm bone (the humerus), near the shoulder.

A rupture is a tearing of that muscle-tendon unit, and it most often gives way right at or near where the tendon attaches to the bone. The usual cause is a sudden, forceful stretch while the muscle is contracting hard (exactly what happens at the bottom of a bench press as the weight is lowered). It is far more common in men, particularly active weight-trainers, and **anabolic steroid use is a recognised risk factor** because it can weaken the tendon.

Tears vary. A **complete** tear pulls the tendon fully off the bone, which is what produces the obvious change in chest shape and the biggest loss of strength. A **partial** tear, or a tear within the muscle belly itself rather than at

the tendon, leaves more of the attachment intact. Which kind you have matters a great deal for how it's best treated.

What we can do about it

In our clinic, Dr Kieran Hirpara leads the assessment for this injury, starting with a detailed history and examination to confirm the diagnosis. We typically manage long-standing problems with non-operative care first, considering surgery only if that approach does not provide enough relief.

The first step is to work out exactly what has torn and where. That's done by examining the shoulder and confirming it with an **MRI scan**, which shows whether the tear is partial or complete and pinpoints whether it's pulled off the bone or torn within the muscle.

For an active person with a complete tear at the tendon, surgery to reattach the tendon to the bone is usually recommended. Repair restores pushing strength and rebuilds the normal contour of the chest, and the evidence is consistent that repaired tendons recover more strength than tears left to heal on their own. The single most important factor here is **timing: results are best when the repair is done early**, ideally within the first few weeks while the tendon is still healthy and hasn't scarred or pulled back. This is the main reason it's worth being assessed promptly rather than waiting to see how it settles.

Partial tears, tears within the muscle belly, and people who are older or have lower physical demands are often managed very well without surgery: a period of rest, then a graded rehabilitation program to rebuild movement and strength. This route restores good day-to-day function, though it usually leaves some loss of peak pushing power compared with a repaired complete tear. Older repairs are still possible if a complete tear is missed early, but they are more demanding and the results are less reliable, which is exactly why early assessment counts.

What to expect

If you have surgery, recovery is measured in **months, not weeks**. The repair is protected first, typically with a **slings for around six weeks** and only gentle, guided movement, to let the tendon knit firmly back to the bone. Strengthening is introduced gradually after that, and harder loading is held back deliberately; **pushing exercises and bench pressing are usually off the table for six to nine months**. Most people are back to everyday activities by around six weeks and to fuller sport or training by four to six months, with strength still improving up to a year out.

The pay-off for that patience is good: most people who have an early repair regain strong pushing power, a restored chest shape, and a return to the activities they care about. Those managed without surgery generally settle to solid everyday function too, accepting a little less peak strength. Sticking with the rehab program and not rushing the heavy pressing is what protects the result either way.

When to see someone

- A sudden pop or tearing in the chest or front of the shoulder during lifting or a forceful effort: get it assessed promptly, because the best surgical results come from repairing early.
- **Bruising spreading down the arm or chest**, marked swelling, or a **visible change in the shape of your chest** or the front fold of the armpit.
- **Ongoing weakness** with pushing or bringing the arm across your body once the initial pain has settled.
- Any tearing injury where you're unsure how bad it is: an early scan sorts a partial tear from a complete one, and that decision is time-sensitive.

In more depth

This section goes further than you need for your own treatment decisions. Pectoralis major rupture is worth the extra reading because it is one of the clearer cases on this site where surgery outperforms non-operative care – and because the complication rate is high enough to be quoted alongside that benefit rather than after it.

REPAIR OUTPERFORMS NON-OPERATIVE TREATMENT

Across **664** patients, **pectoralis major tendon repair resulted in significantly superior outcomes compared with non-operative treatment**, with statistically significant improvements in functional outcome, isokinetic strength and isometric strength – and **an associated complication rate of 14.21%** [1].

Both halves belong in the same sentence. This is a repair that restores measurable strength that non-operative treatment does not, and roughly one in seven patients experiences a complication. For most tendon injuries on this site the surgical advantage is smaller and the complication rate lower; here both are larger.

The strength deficit matters because of what the muscle does. Pectoralis major drives horizontal adduction and internal rotation – pressing movements, bringing the arm across the body. An unrepaired rupture typically leaves a visible deformity and a specific loss of pressing power, which is why the injury is concentrated in, and matters most to, people who lift.

WHERE THE TEAR SITS DETERMINES WHAT CAN BE DONE

Not all pectoralis ruptures are the same injury. A contemporary classification incorporates **injury timing, injury location, and standardised terminology for tear extent**, proposed specifically to reflect the musculotendinous anatomy and better inform surgical management [2].

The practical distinction is between a tear at the tendon's attachment to the humerus, which repairs well by reattaching it to bone, and a tear within the muscle belly itself, which has no tendon to anchor and is generally managed non-operatively. Between them sits the musculotendinous junction, which is the difficult group.

Timing matters for the same reason it does elsewhere: the torn tendon retracts and scars, so a chronic rupture may require grafting rather than direct repair.

WHY THE DIAGNOSIS IS MISSED EARLY

Immediately after the injury the appearance is dominated by bruising and swelling across the chest and upper arm, which obscures the contour change. The characteristic findings – loss of the anterior axillary fold, asymmetry of the muscle on resisted pressing, and a palpable defect – become clearer as swelling settles, by which time the injury may have been labelled a strain.

Given that repair is more straightforward acutely, a distinct pop during a heavy press followed by bruising is worth imaging rather than observing.

REFERENCES

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2. ElMaraghy AW, Devereaux MW. A systematic review and comprehensive classification of pectoralis major tears. *J Shoulder Elbow Surg.* 2012;21(3):412-22.