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# Stiff Shell or Stiff Muscle?

*Two conditions that look alike but need very different treatment, and how they're told apart.*

**5 to 30 yrs**
after heart surgery is when constriction can show up

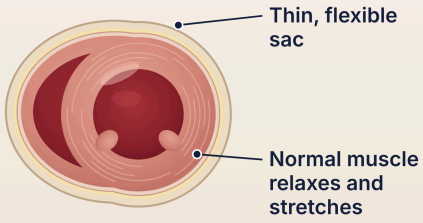
**70 to 90%**
of people who come through the surgery for constriction improve

**3 to 6 wks**
is typical for the full amyloid workup, first labs to diagnosis

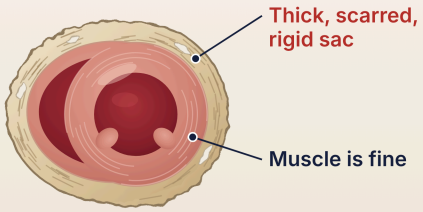
WHY THEY LOOK ALIKE

## Same filling problem, different cause

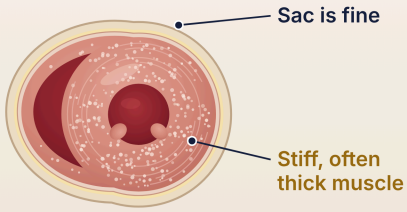
**Normal heart**
thin, flexible sac, relaxed muscle




**Constrictive pericarditis**
stiff shell, the heart can't expand




**Restrictive cardiomyopathy**
stiff muscle, the heart can't relax




In both, the heart's squeeze may be normal, but it can't fill properly between beats, so pressure backs up and fluid builds. In **constrictive pericarditis** the sac around the heart turns thick, scarred and rigid, often after old heart surgery, chest radiation or a past infection, like a balloon inside a metal box. In **restrictive cardiomyopathy** the sac is fine and the muscle itself is stiff, usually because something has built up in it, most often amyloid protein.

HOW THEY'RE TOLD APART

## The workup usually takes several tests

1. **Echocardiogram**
The starting point. It shows how the heart fills, how thick the walls are and whether the sac looks thickened.

2. **Cardiac MRI**
Sharper pictures of the sac and the muscle, with patterns that point to amyloid or sarcoidosis.

3. **Amyloid testing**
Blood and urine tests for AL amyloid, then a PYP scan that can find ATTR amyloid in the heart.

4. **Catheterization**
Recording pressures in both sides of the heart at once is the definitive test when others don't settle it.

**Push for the answer**

If you have right-sided heart failure symptoms with a normal ejection fraction, especially after heart surgery or chest radiation, push for a thorough workup. An echocardiogram alone often isn't enough, and the right diagnosis decides your treatment.

TWO DIAGNOSES, TWO PATHS

# How each is treated, and when to call

## CONSTRICTIVE PERICARDITIS

often curable with surgery

| | |
|---|---|
| **Pericardiectomy** | Major heart surgery that strips the scarred sac off the heart so it can fill again. The risk of dying from the operation is 6 to 10 percent in most reports, under 1.5 percent at experienced centers when there is no known cause, and higher after past heart surgery or chest radiation. 70 to 90 percent of survivors improve. The benefit often shows most at 3 to 6 months. |
| **Recovery** | Usually 5 to 10 days in the hospital and 2 to 3 months to get back to baseline activity. Outcomes are better at centers that do this operation often, so ask about volume. |
| **Caught early** | If imaging shows active inflammation, colchicine plus a brief course of steroids can sometimes reverse it before the sac scars for good. |
| **Diuretics** | Water pills ease swelling and breathlessness, though they don't fix the sac. |

## RESTRICTIVE CARDIOMYOPATHY

treatment depends on the cause

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|---|---|
| **ATTR amyloidosis** | Tafamidis or acoramidis (Attruby, approved November 2024), daily pills, or vutrisiran, an injection every 3 months approved for ATTR heart disease in March 2025. All work best when started early. |
| **AL amyloidosis** | Daratumumab-based treatment with a hematologist, sometimes with a stem cell transplant. |
| **Other causes** | Immunosuppression for sarcoidosis, and regular blood removal or iron chelation for hemochromatosis. |
| **Standard heart drugs** | Many usual heart failure drugs are poorly tolerated, so your team starts low and adjusts carefully. |

## CALL YOUR TEAM WITHIN A DAY

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|---|---|
| **Weight gain** | Weigh yourself every morning. Call for a sustained gain of 3 pounds in a week or 5 pounds in a month. |
| **New or worse symptoms** | Worsening shortness of breath, more leg swelling, new belly pain or fullness, new palpitations, or lightheadedness when you stand. |

## CALL 911

| | |
|---|---|
| **Warning signs** | Severe shortness of breath, especially at rest, new or worsening chest pain, fainting, severe palpitations with low blood pressure, signs of stroke, severe sudden belly pain, or anything that feels like an emergency. |

## BRING TO YOUR VISIT

A list of past heart surgeries, chest radiation and pericarditis, any TB exposure, family history of amyloid, sarcoidosis or hemochromatosis, and every medication. Mention carpal tunnel, easy bruising, a large tongue, kidney problems or unexplained nerve problems, which can be clues to amyloid.

## READ THE FULL ARTICLE

damianrasch.com/
constrictive-vs-restrictive

For education only, and not a substitute for advice from your own physician. Sources include the 2025 and 2015 ESC pericardial guidelines, the 2023 ACC cardiac amyloidosis pathway, Welch (Heart 2018), Pereira et al. (JACC 2018) and the tafamidis trial (NEJM 2018).

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