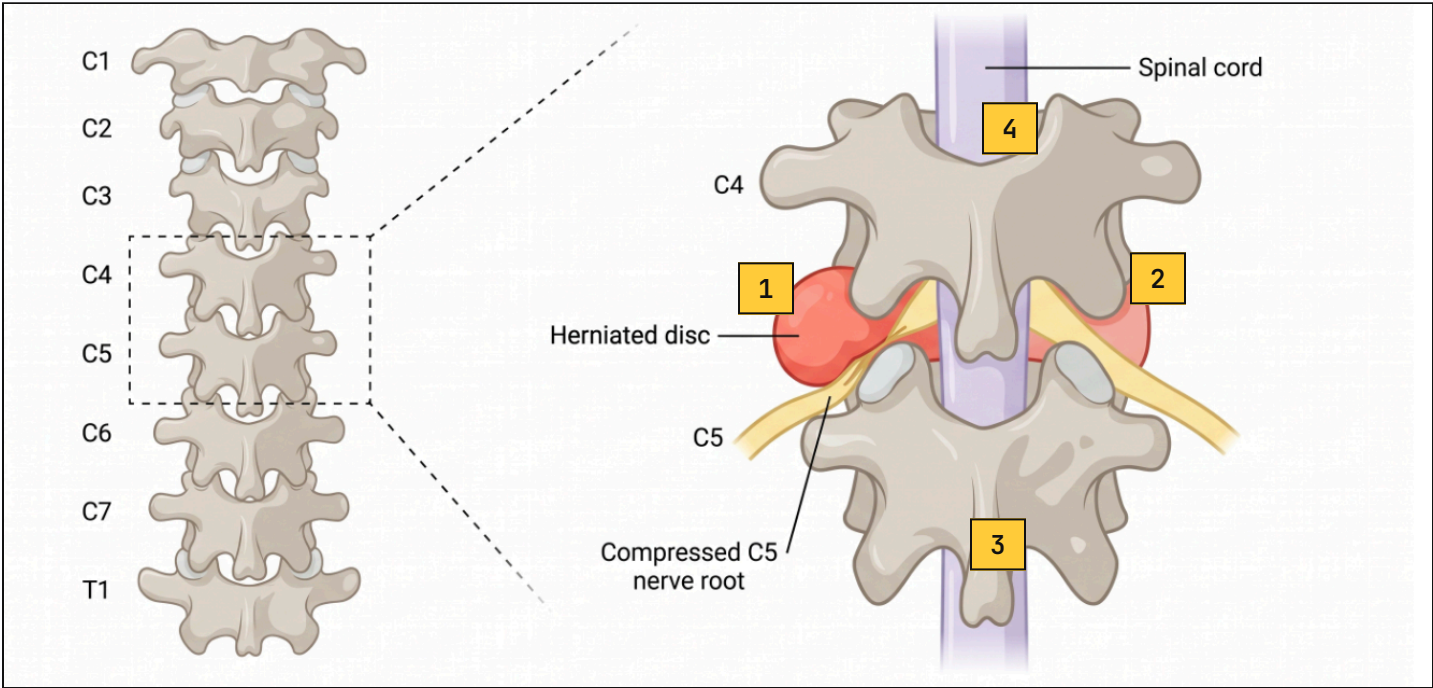


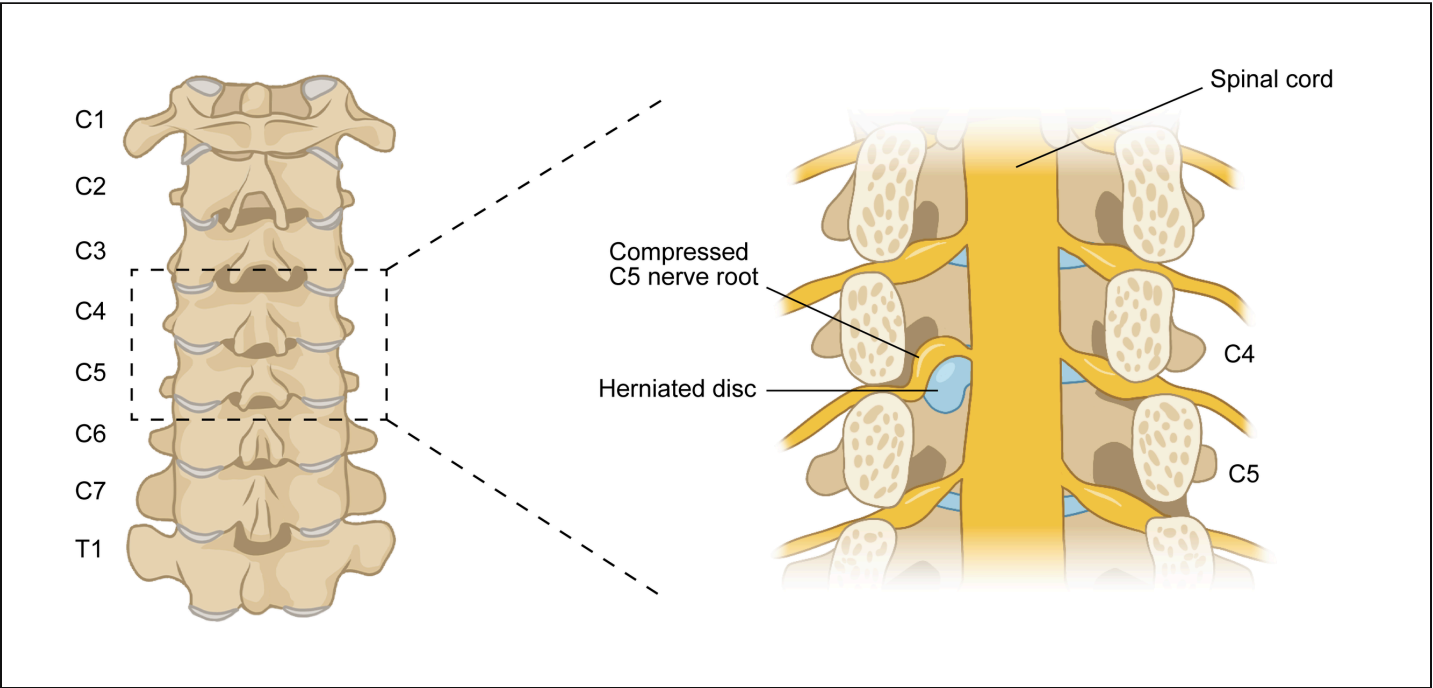
Human-Verified

A proof of concept for improving trust in AI-generated figures.

I'd been researching how AI generates biomedical visuals, and the launch of BioRender's new AI agent was a timely chance to test it. The library has a posterior-view lumbar disc herniation, so I asked for the same view and style at the cervical level, as a researcher would, then reviewed the result as a medical illustrator. The reasoning was right; the drawing wasn't. This gap is where a trained eye matters most.



ai AI-generated / BioRender AI draft Generated in BioRender.com, 10.06.2026



hv Human-verified / proposed library asset BioRender.com assets, refined in Illustrator/Photoshop

4 errors against the user request

TAG	OBSERVED	EXPECTED
1	Herniation peeks past intact posterior elements	Posterolateral, with laminae and facets cut away to show it, as in the library's lumbar asset
2	Apparent bilateral bulge	Left only, per the request
3	Lumbar-shaped vertebrae, gapped facets, with other non-cervical inconsistencies	Short bifid spinous processes, shingled laminae, and continuous lateral mass columns with tightly stacked facets
4	Color palette doesn't match the library	Library palette (tan bone, blue discs, yellow neural tissue), inherited automatically when the AI builds from a verified asset

THE THINKING, IN FOUR POINTS

A Testing for a pattern

Generated three cervical pathologies in the AI editor and got three different failure modes: no single fixable bug.

B Tracing brief to render

Reran the herniation in the new AI agent: the brief anticipated the anatomy, the drawing drifted, and its self-check caught 1 of the 4 tagged errors.

C An idea: verify upstream

Proposing an upstream fix: turn recurring library gaps into Human-Verified assets that set the anatomy and style the AI builds from.

D Why it matters

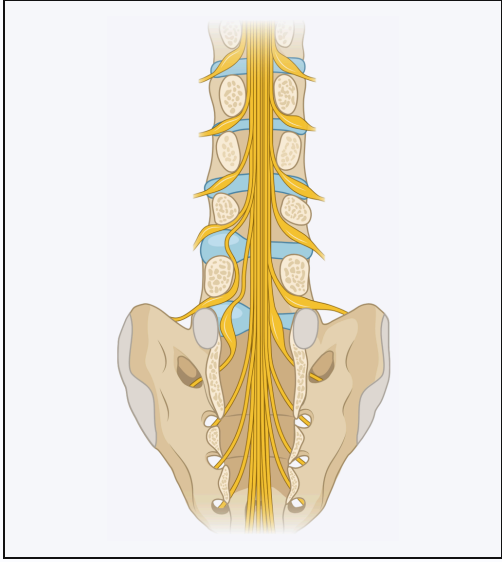
Making the review visible matters: trust in a figure rises from 10% fully AI-generated to 54% once a human has a hand in it (BioRender, 2026).

PROPOSED PILOT Start with one region: verify the cervical spine's most-requested missing assets, badge them hv, and measure whether AI drafts built from them need fewer corrections. I'd like to help build it.

Testing record

Human-Verified: a proof of concept

Why this test



Library reference: spinal disc herniation (lumbar and sacral), BioRender.com

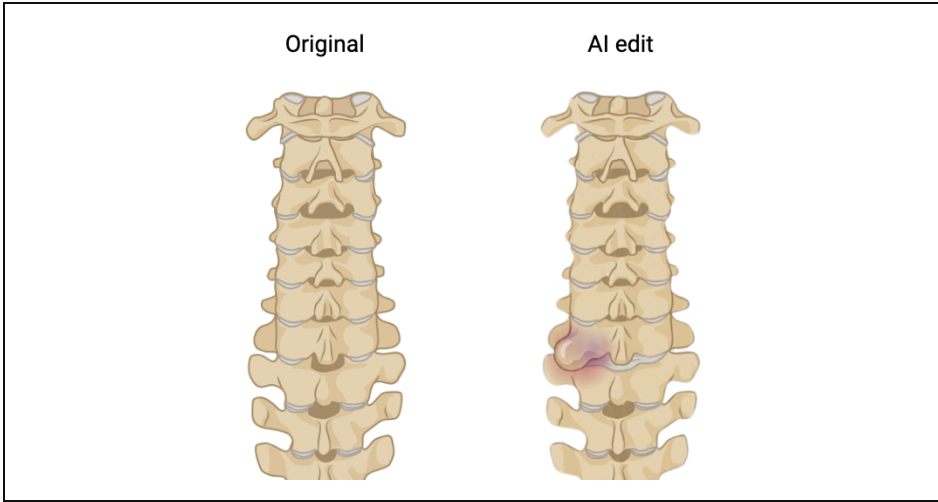
As AI begins drawing biomedical figures, knowing where an image came from and who checked it matters as much as how it looks. I tested BioRender's tools in two rounds: first the AI editor on three cervical pathologies (A), then the new AI agent on the same herniation prompt (B). For the herniation, I modeled the prompt on an existing library asset, the posterior-view lumbar disc herniation (left), asking for the same view and style at the cervical level, a case the library doesn't cover yet. Holding the view constant meant any errors would come from the anatomy rather than the framing.

This library asset cuts away the posterior elements to expose the discs and nerve exits, and draws disc material in blue. The generated figures kept the bone intact and colored the disc red. A better prompt might fix the framing, but an asset added to the library should match it.

In both rounds, I prompted and answered the tools' questions as a researcher would, then reviewed every output as a medical illustrator.

A Testing for a pattern

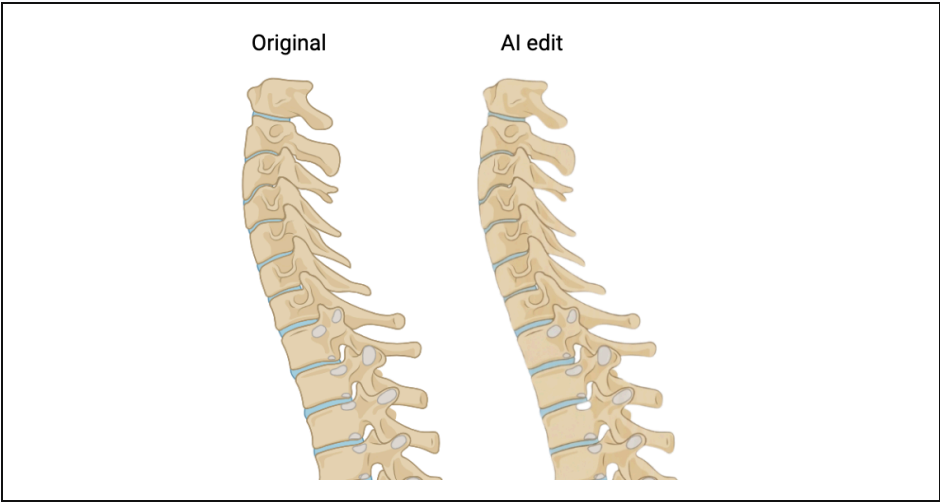
BIORENDER AI EDITOR / 09.28.2026 / ORIGINAL LEFT, AI EDIT RIGHT



A1 Disc herniation, C4-C5 left

Prompt: "spine icon with left C4-C5 disc herniation (Spine (posterior))"

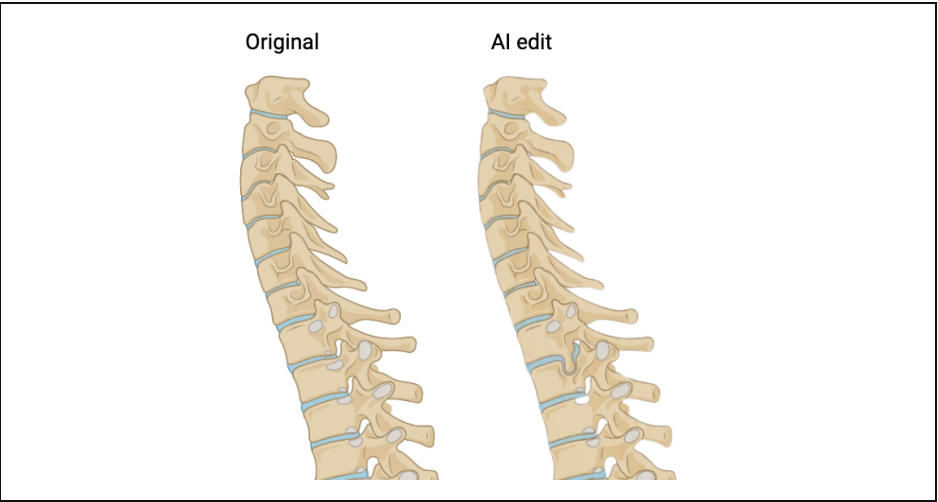
Wrong tissue origin. Lesion arises from the vertebral body, not the disc space.



A2 Spondylolisthesis, C4 on C5

Prompt: "spine icon, spondylolisthesis - anterior slippage of C4 over C5 (spine (lateral))"

Pathology not rendered. The edit returned an effectively unchanged spine.



A3 Schmorl's node, C5

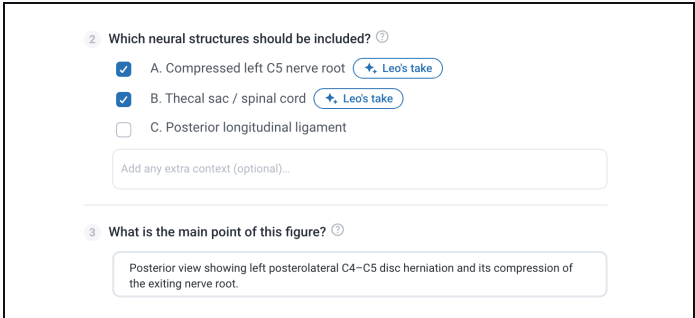
Prompt: "spine icon, C5 Schmorl's node - vertical herniation of disc material through the inferior endplate into the vertebral body (spine (lateral))"

Wrong level, inverted mechanism. Placed at thoracic level, bone projecting into the disc.

Three pathologies prompted, three different failure modes. No single fixable bug: outputs vary, so the anatomy has to be checked every time.

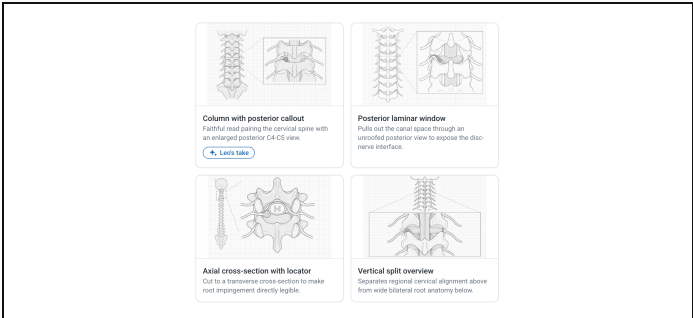
B Tracing brief to render

BIORENDER AI AGENT (LEO) / 10.06.2026 / SAME HERNIATION PROMPT, TYPICAL-RESEARCHER ANSWERS



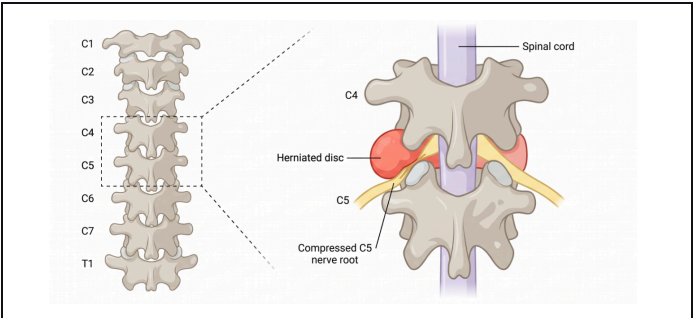
B1 Brief

Inferred a posterolateral herniation and the affected C5 root unprompted.



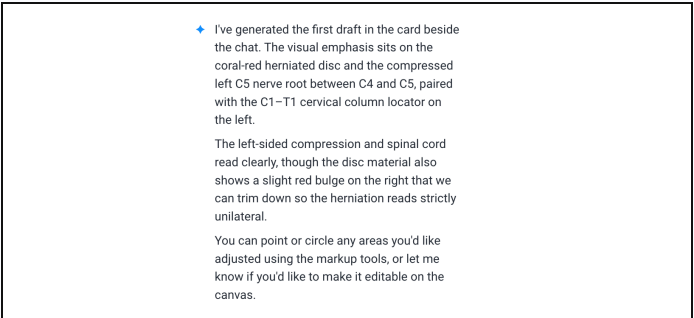
B2 Sketches

Offered a laminar window and axial view, then recommended plain posterior. Sketch anatomy is rough at this stage; the focus is the view it chose.



B3 Draft 1

First pass shown: four errors against the user request. [See Fig. 01](#)



B4 Self-check

Flagged the bilateral bulge, not the structural errors. Markup tools allow guided revision; this record keeps the unassisted first pass.

Right reasoning, wrong drawing. With no cervical asset in the library, the agent had no verified anatomy to start from.

C An idea: verify upstream

AI outputs are private to each account, so reviewing figures one at a time may not scale. Instead, the illustration team tests outputs in aggregate and looks at what people ask the AI to draw, then turns recurring gaps in the library (like the missing cervical herniation) into Human-Verified assets. The AI builds from those, so later generations start from verified anatomy in the library's own style.

01 Aggregate requests and failed generations	02 Identify recurring gaps and error patterns	03 Illustrator creates and reviews a canonical asset	04 AI uses verified assets as references	05 Provenance stays visible to users
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Each asset improves the next generation, and the loop repeats as new requests come in.

D Why it matters

10%	54%	74%
trust a fully AI-generated figure	once a human has edited it	trust a fully human-made figure

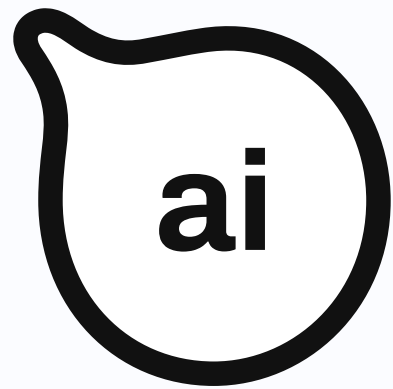
BioRender survey of 1,063 scientists, Spring 2026. [Is AI hurting scientific credibility?](#)

One possible interface, its form borrowed from the "o" in BioRender's wordmark and its role inspired by provenance conventions such as [C2PA Content Credentials](#): it shows whether an asset is AI-generated or human-verified. The badge makes review visible to consumers; the real intervention is the verified source material behind the generations.

A QUESTION Could aggregate review of failed or frequently requested AI figures become a way for BioRender to expand its verified library while making AI-generated science communication more trustworthy?

The mark

Two badges that show scientists where a figure came from and whether an illustrator has checked it.



AI-generated

Drafted by BioRender AI. The anatomy has not yet been reviewed by a medical illustrator.

HOLLOW: STILL AN OPEN QUESTION



Human-verified

Reviewed or built by a medical illustrator against BioRender's verified library.

FILLED: CHECKED AND SIGNED OFF

Why it looks like this

Borrowed form

The shape comes from the "o" in BioRender's wordmark, so the mark reads as part of the product, not a generic warning label.

Hollow vs. filled

The state is carried by fill, not color alone, so it survives grayscale printing and color-blind viewing.

Lowercase labels

"ai" and "hv" are set lowercase in a bold sans so they read as calm labels, not alarms. Neither mark says a figure is bad.

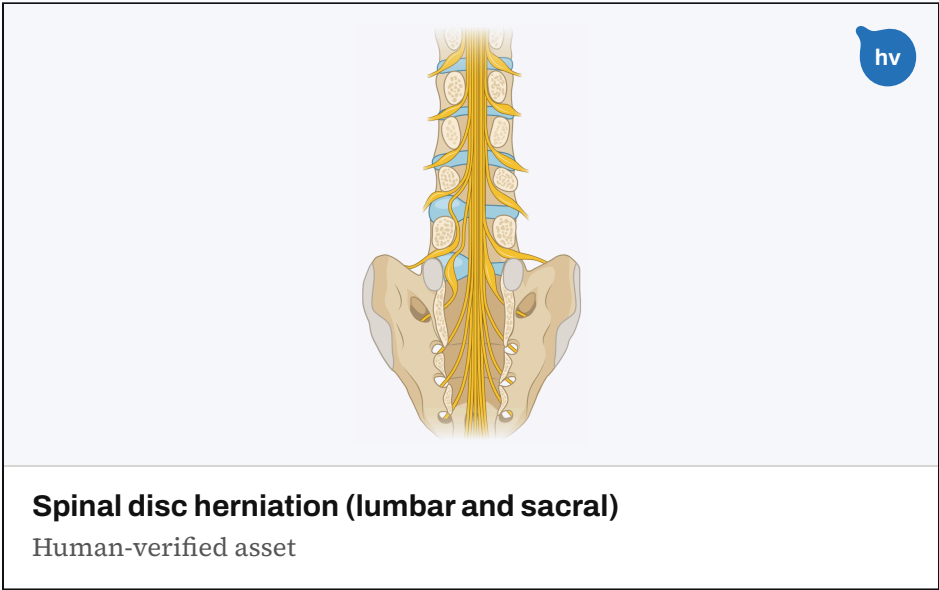
Holds up small



48 / 32 / 20 px. Minimum size 16 px.

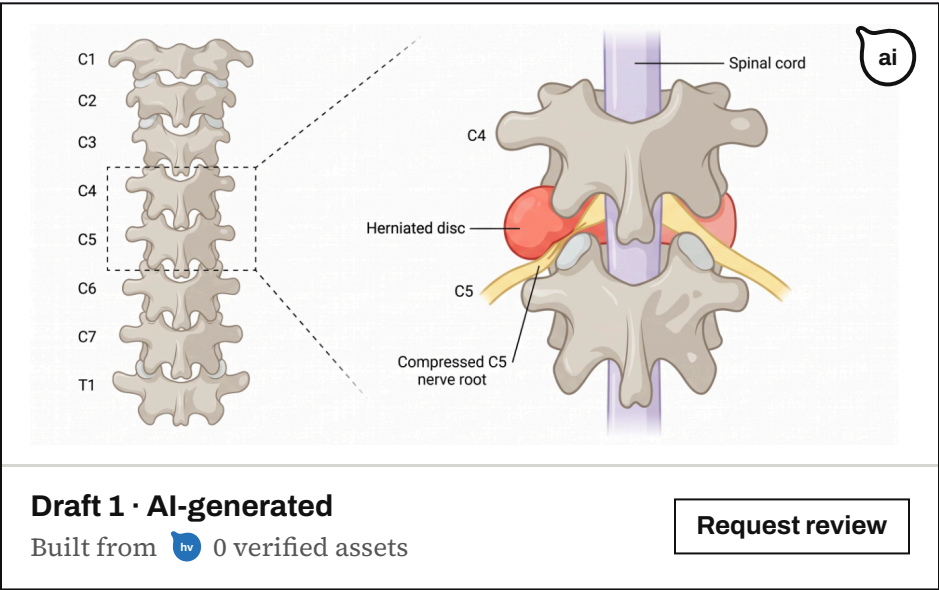
Where it appears

01 / LIBRARY SEARCH



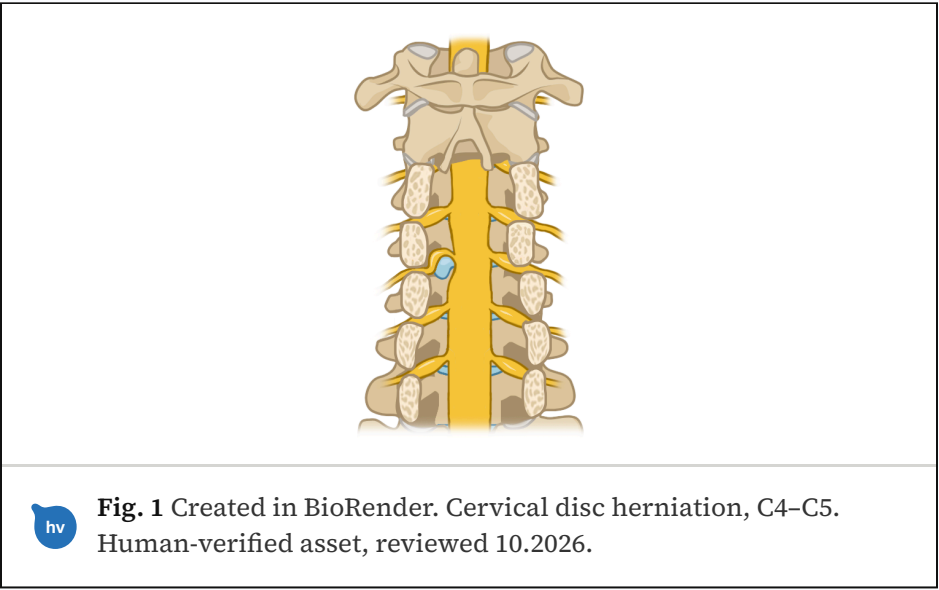
Verified assets carry the mark in results, so users can choose a checked starting point.

02 / AI DRAFT ON THE CANVAS



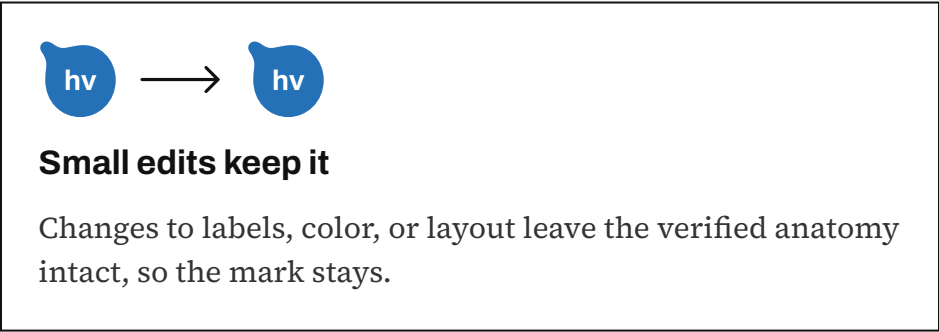
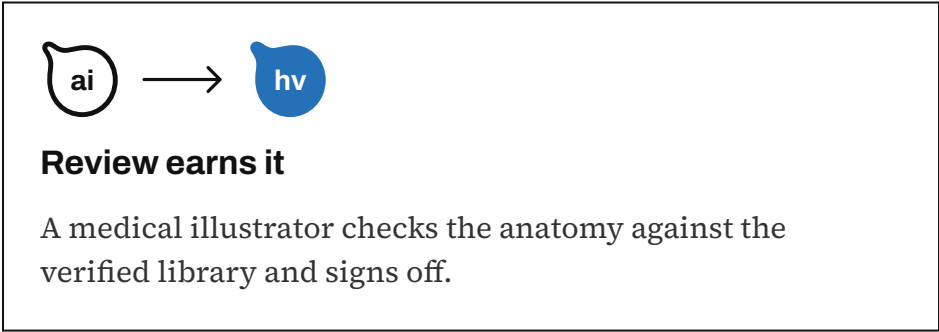
Drafts list the verified assets they started from. Zero is a signal to look closer, or to ask for review.

03 / EXPORTED FIGURE



The mark moves into papers and slides, with provenance metadata underneath, in the spirit of [C2PA Content Credentials](#).

How the mark changes



AI drafts built from verified assets still start as ai. The mark describes the figure in hand, not its sources.

THE POINT The badge makes review visible; the verified library is what earns it. Trust rises from 10% to 54% once a human has a hand in a figure (BioRender, 2026).