

01. Clinic Courtyard Kickoff

Three cheerful Latin American research interns in colorful explorer outfits outside Mayo Clinic Jacksonville, holding clipboards, Dora-style bold outlines, speech bubbles, playful arrows pointing

Camila: "Hola! Ready to map Type 2 endoleaks?"

Camilo: "Si, lets explore the hidden flow paths!"

Diego: "Dr. Erben wants clear visuals and data."

02. Goal Map

Comic-style whiteboard with sketched aorta and aneurysm sac, treasure map arrows pointing to side branches; interns point with colorful markers

Diego: "Objective: 30 scenes, cada paso claro."

Camila: "Story must teach without extra text."

Camilo: "Speech bubbles carry the science!"

03. Define Type 2

Aorta cutaway, aneurysm sac, small lumbar artery feeding retrograde flow; bright labels and dotted arrows.

Camilo: "Type 2 = retrograde inflow from branches."

Camila: "Not a leak at the seal, sino colaterales."

04. Flow Mechanism

Zoomed lumen with swirling contrast, smiling arrows, stylized bone landmarks

Diego: "Lumbar or IMA feed in, pressure keeps sac perfused."

Camilo: "Outcome depends on sac growth."

05. Risk Signal

Cartoon sac with tape measure, green check for stable, red arrow for >5 mm growth.

Camila: "Stable sac? We watch."

Diego: "Growth >5 mm? Intervention time."

06. Imaging Plan

CTA scanner drawn friendly; checklist bubbles arterial phase, delayed phase, source vessel hunt.

Camilo: "CTA arterial plus delayed to catch slow flow."

Camila: "Buscamos el vaso que alimenta el saco."

07. CTA Frames

Two panels inside one: early frame pale, delayed frame brighter sac blush; arrows highlight blush.

Diego: "Delayed blush confirms persistent inflow."

Camilo: "Comparo diámetros: ¿crece el saco?"

08. Source Vessel Hunt

CT-like grayscale with colored arrows tracing lumbar artery into sac; magnifying glass icon.

Camila: "Aquí entra la lumbar, mira la flecha."

Diego: "Target identified, plan embolization route."

09. Team Check-in

Videocall tablet with Dr. Erben smiling, interns thumbs-up.

Dr. Erben: "Evidence first show sac trend and vessel map."

Camilo: "Tenemos los datos listos!"

10. Observation Path

Simple flowchart: stable sac -> observe -> schedule CTA; icons of calendar and happy sac.

Camila: "Mitad se resuelve sola en 6 meses."

Diego: "Seguimos vigilando con CTA seriado."

11. Intervention Path

Flowchart path glowing red: sac growth -> plan embolization; catheter icon.

Camilo: "Si crece >5 mm, tocamos el saco."

Camila: "Elegimos la ruta: transarterial o translumbar."

12. Transarterial Route

Colorful catheter snake entering lumbar artery toward sac; coil icons.

Diego: "Cateterizamos la lumbar con microcatheter 2.0F."

Camilo: "Coils primero, luego Onyx si queda espacio."

13. Translumbal Route

Posterior approach with needle entering sac; shielded spine backdrop.

Camila: "Ruta directa si arterias tortuosas."

Diego: "Precisi3n con angioCT para evitar ratitz lumbar."

14. Novel Idea Spark

3D printed sac model with glow; lightbulb comic effect; interns pointing.

Camilo: "¿Y si mapeamos flujo con microburbujas persistentes?"

Camila: "Podemos cuantificar duraci3n del blush."

15. Microbubble Tracker

CEUS style screen with bright bubbles swirling into sac; timer overlay.

Diego: "Medimos wash-in y wash-out en segundos."

Camilo: "L3mite: si >60 s, mayor riesgo de crecimiento."

16. Dual-Phase CTA Overlay

Split-screen slider merging arterial and delayed CTA frames; color overlay on sac.

Camila: "Fusionamos fases para localizar inflow exacto."

Diego: "Esto gu3a el microcatheter directamente."

17. Pressure Monitoring

Small pressure gauge icon tapped into sac; gauge needle dropping after test embolization.

Camilo: "Idea: microsensor en catheter para presi3n de saco."

Camila: "Si cae, sabemos que sellamos bien."

18. Outcome Data Wall

Poster showing success rates resolution 70-80%; recurrence 10-20%; chart arrows.

Diego: "Datos: resoluci3n 70-80% con embolizaci3n selectiva."

Camilo: "Recurrencia 10-20%, por eso seguimiento."



19. Patient Talk

Friendly counseling scene; anatomical model on table

Camila: "Explicamos: no es fuga del stent, son ramas pequeñas."

Diego: "Plan: vigilar, y si crece, sellar con coils o pegamento."

20. Sterile Prep

Comic catheter lab with blue drapes; checklists floating

Camilo: "Checklist anticoagulación, acceso, microcatheter listo."

Camila: "Recordamos fluoroscopia baja dosis."

21. Coil Deployment

Coils spiraling into sac; contrast swirl stops; celebratory sparkles

Diego: "Coils hasta estasis Onyx si persiste flujo lento."

Camilo: "Control con angiografía final."

22. Post-Procedure CTA

CTA slice showing thrombosed sac without blush; green checkmark

Camila: "A las 6-12 semanas CTA sin realce."

Diego: "Confirmamos diámetro estable o menor."

23. Pilot Study Draft

Poster with bullet points: CEUS microbubble persistence, sac pressure probe, overlay tool

Camilo: "Hipótesis: burbuja >60 s predice expansión."

Camila: "Probaremos en 20 pacientes consecutivos."

24. Sample Size Debate

Calculator, coffee cups, charts, playful arrows

Diego: "Poder 80%, alfa 0.05, necesitamos 34 casos."

Camilo: "Agreguemos margen por pérdidas al seguimiento."

25. Ethics Reminder

Consent form with heart icon, clipboard sticker TRB, friendly tone.

Camila: "Consentimiento informado claro y bilingüe."

Diego: "Riesgos mínimos, beneficio potencial alto."

26. Data Capture

Laptop screen showing live sac diameter chart, cloud icon for registry.

Camilo: "Capturamos diámetro, blush time, presión intra-saco."

Camila: "Usamos hoja REDCap con alerts automáticos."

27. Result Teaser

Upward and flat lines comparing growth vs stable; bubbles labeled fast vs slow wash-out.

Diego: "Si wash-out lento correlaciona, cambiamos algoritmo."

Camilo: "Intervenimos antes en altos riesgos."

28. Teaching Moment

Whiteboard with three bullets: identify source, measure sac, choose approach.

Camila: "Tres pasos: localizar, medir, decidir ruta."

Diego: "Siempre revisar fases retardadas, siempre."

29. Future Tech Dream

Tablet showing holographic artery overlay on patient abdomen; playful stars.

Camilo: "Sueño AR que muestre la arteria culpable en vivo."

Camila: "Y que guíe el microcáteter como GPS."

30. Wrap-Up with Dr. Erben

Interns present poster to Dr. Erben; smiley stickers.

Dr. Erben: "Buen trabajo ciencia clara, visual y medible."

Diego: "Listos para enrolar pacientes y publicar!"

31. Patient Success

Happy patient walking with cane, sac diagram showing shrinkage.

Camila: "Saco 5 mm más pequeño, sin blush."

Camilo: "Seguimiento anual y fin."

32. Future Paper

Mock journal cover titled "Type 2 Endoleak Flow Dynamics", celebratory confetti.

Diego: "Enviamos manuscrito con cohort y CEUS data."

Camila: "Compartimos código y modelos 3D abiertos."