

From concept to hosted website in one hour: AI-generated CT coronary angiography education at global scale

CTCA Quick-Start — a freely accessible, AI-drafted, clinician-reviewed educational website

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THE PROBLEM

High-quality postgraduate radiology education for CTCA is bottlenecked by two barriers: the upfront cost of structuring a comprehensive resource from scratch, and the technology barrier which places professional web publishing beyond most clinicians. Expert knowledge remains siloed and inaccessible to trainees worldwide.

OUR SOLUTION

We used **Claude Code** to orchestrate the entire production pipeline for a 14-chapter CTCA educational website. Content was AI-drafted using nested structured prompting, reviewed by consultant radiologists, and published via **GitHub Pages** as a globally accessible, permanently hosted resource. No web developer was required. No server was rented.

WHY THIS MATTERS

CTCA interpretation requires structured understanding across cardiac anatomy, ECG gating, dose optimisation, plaque characterisation, and CAD-RADS reporting. Producing a 14-chapter resource would typically require weeks of editorial work. This pipeline compresses that to **under one hour** of active clinician time, producing output that is coherent, structured, and immediately web-deployable.

~\$15

Total AI API cost
for full site generation

<1 hr

Concept to
live hosted website

14

Structured chapters
zero web developers

∞

Global reach
free, forever

THE STACK

cc

Claude Code

An AI coding agent that writes, executes, and debugs code autonomously. It orchestrated content generation, site architecture, and deployment end to end — without a line of manual code from the authors.

jk

Jekyll

Converts plain structured text (Markdown) into a professional, searchable, mobile-responsive website. Clinicians write content; Jekyll builds and rebuilds automatically on every update.

gh

GitHub + GitHub Pages

GitHub is the world’s largest home for software — over 100 million developers store, version, and collaborate on code there. GitHub Pages turns any repository into a live website instantly. GitHub Actions automates rebuild on every content change. The result: permanent, free, globally distributed hosting with no server to manage, no domain to renew, and no infrastructure bill — ever.

METHODS — THE PIPELINE

- 1

Structure. Claude Code generated a 14-chapter CTCA curriculum skeleton mapping chapters to clinical domains.
- 2

Nested LLM prompting. Each chapter and subheading was populated through structured API calls, generating content pitched at postgraduate radiology trainee level.
- 3

AI-assisted review. Claude Code performed a first-pass review, flagging factual claims and marking values requiring independent verification.
- 4

Site build and deployment. Claude Code configured Jekyll, committed to GitHub, and triggered GitHub Actions — a live, searchable website without any manual web development.
- 5

Consultant sign-off. Human expert review validated content for clinical accuracy before public release.

SCOPE OF THE RESOURCE

The published CTCA Quick-Start covers all major domains required for competent CTCA reporting:

- Indications and clinical pathway
- Patient preparation — HR optimisation, nitrates, consent
- Scanning principles and ECG gating
- Radiation dose optimisation and justification
- Normal coronary anatomy — segments, dominance, variants
- Image reconstruction — MPR, CPR, MIP, VRT, motion correction
- Calcium scoring and CAC-DRS
- Stenosis assessment and CAD-RADS grading
- Plaque characterisation including high-risk features
- Non-coronary cardiac findings — valves, pericardium, myocardium
- Extracardiac findings — lungs, mediastinum, abdomen
- Pitfalls and artefacts — motion, blooming, beam hardening
- Report structure and communication
- Clinical decision-making and NICE pathway alignment

SCALABILITY AND FUTURE DIRECTIONS

The pipeline is modality-agnostic and organ-agnostic. The same nested prompting architecture, Jekyll build system, and GitHub hosting applies to any imaging domain — chest, breast, neurological, musculoskeletal. Each new draft resource costs approximately \$15 in API fees, though clinician review time remains the dominant investment. Expansion to further subspecialties is underway.

CONCLUSION

This project demonstrates that a consultant radiologist with subject matter expertise but no software development background can produce a **professionally structured, globally hosted educational website** in under an hour for approximately \$15. Claude Code eliminated the technology barrier; GitHub Pages eliminated hosting cost permanently. The question is no longer whether clinical knowledge can be shared at scale — it is whether we choose to share it.

ACCESS THE RESOURCE

rosewarnedm.github.io/CTCA-quickstart