RAPIDAI

CT perfusion, simplified:

A practical guide to reading the maps

CT perfusion doesn't have to be overwhelming. At its core, it's about answering a few critical questions: What tissue is likely already lost? What can still be saved? And how fast is the situation evolving?

These maps are designed to make your assessment visual and intuitive so you can quickly unpack what you're seeing to support accurate diagnosis, treatment, and transfer decisions.

Perfusion mismatch maps

Core vs. penumbra

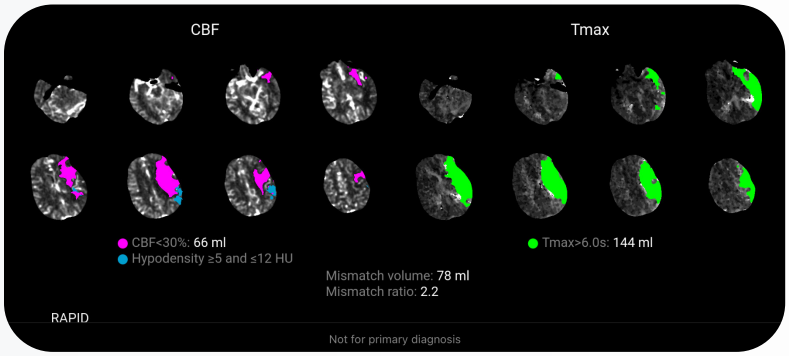
Magenta = tissue likely to be infarcted, the core

Green = penumbra, tissue at risk but potentially salvageable

Mismatch volume = estimate of potentially salvageable tissue

Mismatch ratio > 1.8x
Strong thrombectomy candidate, per AHA guidelines

Mismatch ratio < 1.8x
Requires additional clinical context

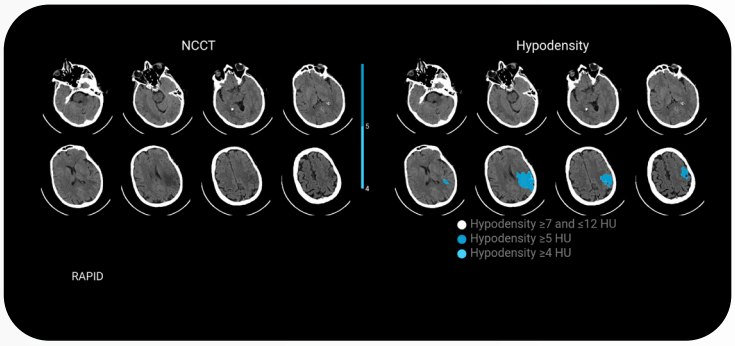


Hypodensity maps

Identify previously infarcted or subacute tissue

Look for different shades of blue to determine tissue change from prior events

- 3 shades reflect different thresholds
- Not included in mismatch ratios



Tmax / HIR maps

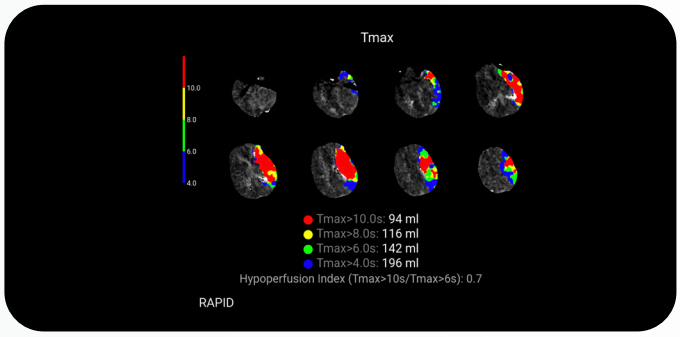
Assess collateral status and stroke speed

Shows percent of perfusion deficit to indicate poor collaterals

Tmax > 6s:
Poor collaterals, faster progression

Tmax < 6s:
Better collaterals, slower progression. Critical for long-distance transfer decisions

HIR > 0.4:
Less favorable collaterals, predicts faster ischemic core growth



CBF / CBV thresholds

Validate severity of the stroke

- Shows where blood flow is delayed and supply is compromised
- Use to determine candidacy for transfer based on stroke progression
- Predicts minimum final ischemic core volume

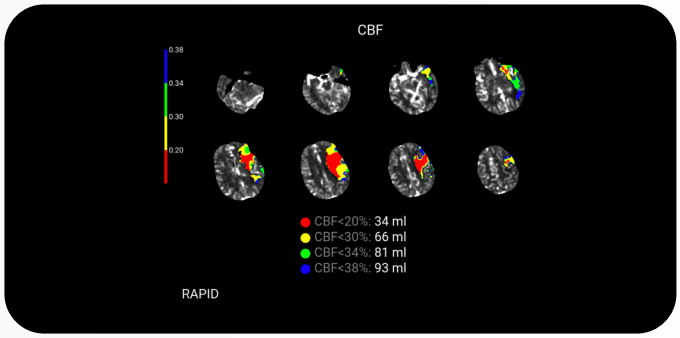
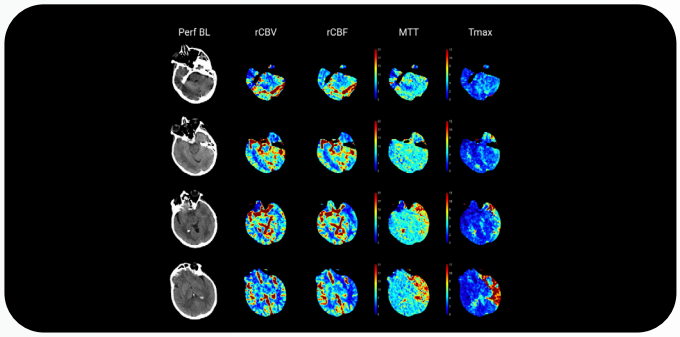


Image column views

See it all together

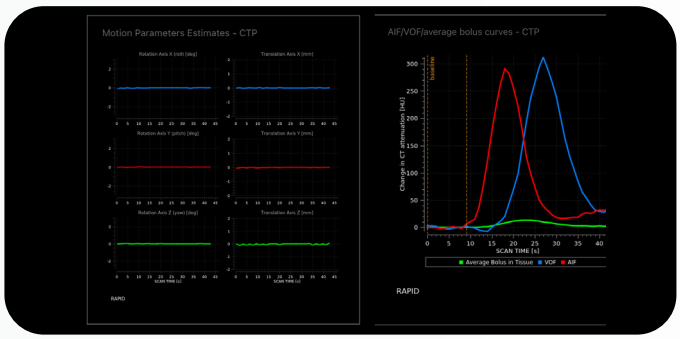
- 4 maps + source CT
- Aligns CBV, CBF, MTT, and Tmax with the source Side-by-side comparison
- Helps distinguish acute vs. chronic occlusions



AIF and movement plots

Confirm reliability of the study

- AIF/VOF curves confirm positive bolus timing
- Axis maps show patient movement



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