Typical Pediatric Contrast Protocol Optimized for Siemens Force

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TRA Pediatric Radiologist: Aditya Sunidja, MD
MHS TGH Lead CT Technologist: Michelle Redden, RT(R)(CT)ARRT

For a Siemens SOMATOM Force scanner, pediatric IV contrast protocols are commonly optimized because the scanner's high pitch, rapid acquisition, and dual-source technology allow for:

- Lower total contrast volume
- Lower injection rates in small children
- Shorter injection duration
- Earlier scan timing

Most sites using the Force scanner use:

- 1.0 to 1.5 mL/kg *instead of older 2 mL/kg protocols because the scanner is substantially faster*.
- *Many centers switch to **adult dosing once the child is ~45–50 kg (100–110 lb)**.*
- *Routine pediatric CT injection rates are commonly **1–2 mL/sec**.*
- *Pediatric CTA studies usually require **2–4 mL/sec** if IV access allows.*

Pediatric CT Contrast Table — Siemens Force Optimized

Weight (kg)	Weight (lb)	mg/mL	Injection rate	Saline flush
3–5 kg	**6.6–11 lb**	**4–6 mL**	**0.5 mL/sec**	**5–10 mL**
6–10 kg	**13–22 lb**	**6–12 mL**	**0.5–1 mL/sec**	**10 mL**
11–15 kg	**24–33 lb**	**12–18 mL**	**1–1.5 mL/sec**	**10–15 mL**
16–20 kg	**35–44 lb**	**18–24 mL**	**1.5–2 mL/sec**	**15–20 mL**
21–30 kg	**46–66 lb**	**24–36 mL**	**2–2.5 mL/sec**	**20 mL**
31–40 kg	**68–88 lb**	**36–50 mL**	**2.5–3 mL/sec**	**20 mL**
41–50 kg	**90–95 lb**	**50–6 5mL**	**2.5-3.5 mL/sec**	**25 mL**
***50-90 kg**	***>110 lb-200 lb**	***65 mL**	***2.5-4.5 mL/sec**	***25-30 mL**
***90- 113 kg**	***200-250 lb**	***80 mL**	***3 – 4.5 mL/sec**	***25-30 mL**
***113 – 136 kg**	***250-300lb**	***100 mL**	***3 - 5 mL/sec**	***25-30 mL**

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CONTRAST TIMING GUIDELINES

CTA Timing — Siemens Force

Bolus Tracking

Preferred ROI:

- Descending thoracic aorta

Trigger threshold:

- 100-150 HU

Scan delay after trigger:

- 0 –2 Secs

Because Force acquisition is extremely rapid, additional delay is minimized, and API breath hold is turned off. Free breathing

Venous Phase Timing — Siemens Force

Chest/Abdomen/Pelvis Venous Scan Delay

Typical practical targets:

- Chest venous: 25-35 sec from start of injection, *age, cardiac output dependent*
- Abdomen/pelvis portal venous: 40–70 sec from start of injection, *age, cardiac output dependent*
- Brain/Face venous 55-65 sec from start of injection
- CARE Dose4D enabled
- Care KvP enabled
- ADMIRE iterative reconstruction on
- Saline chaser strongly recommended
- Appropriate gage/location/type of IV access