

Carpal Tunnel Release Classification

- [Reoperation Rates and Short-Term Complications Following Endoscopic vs. Open Carpal Tunnel Release: A Longitudinal Analysis](#)
- [Sonography of the Thenar Motor Branch of the Median Nerve: A Pictorial Review](#)
- [How I Approach a Patient with CRPS - A Shifting Paradigm \(History, Examination, Investigations, Classification and Treatment\)](#)
- [Long-term patient-centered outcomes following carpal tunnel release surgery: a 10-year follow-up](#)
- [Accuracy of a Superficial Landmark of the Recurrent Branch of the Median Nerve and Anatomical Features of Transverse Muscle Fibres Observed During Carpal Tunnel Release](#)
- [Revision A1 Pulley Release: An Analysis of Risk Factors Using a National Database](#)
- [Predicting thenar motor branch anatomy for a safer carpal tunnel release](#)
- [Most Carpal Tunnel Releases Address Moderate or Severe Median Neuropathy](#)

Carpal tunnel release (CTR) procedures are classified based on the **surgical approach** used to divide the **transverse carpal ligament** and decompress the **median nerve**.

1. Open Carpal Tunnel Release (OCTR)

- **Traditional open technique:**
 - Standard longitudinal incision (3–5 cm) over the carpal tunnel.
 - Complete visualization of the transverse carpal ligament.
 - Often performed under local or regional anesthesia.
- **Mini-open technique:**
- Smaller incision (1.5–3 cm).
- Less soft tissue dissection, faster recovery.
- Limited exposure, but safer than blind endoscopic in some hands.

2. Endoscopic Carpal Tunnel Release (ECTR)

- **Single-portal technique (e.g., Agee):**
 - Entry through a proximal forearm or wrist incision.
 - Endoscope introduced to visualize and cut the ligament.
- **Two-portal technique (e.g., Chow):**
- One portal for the endoscope, another for the cutting instrument.
- Better visualization of structures.

Advantages: Shorter recovery time, less scar tenderness. **Disadvantages:** Steep learning curve, risk of incomplete release or iatrogenic injury.

3. Ultrasound-Guided Carpal Tunnel Release

- Percutaneous procedure with real-time imaging.
- Minimally invasive: no direct palm incision.
- Still under evaluation; requires advanced skill in musculoskeletal ultrasound.

4. Other Techniques (Experimental)

- **Thread Carpal Tunnel Release (TCTR)** - uses a looped thread under imaging guidance.
- **Laser-assisted / Robotic-assisted techniques** - rare, not standard.

Summary Table

Technique	Invasiveness	Visualization	Recovery	Risk of Iatrogenic Injury
Open	High	Excellent	Slower	Low (if careful)
Mini-open	Moderate	Good	Faster	Low
Endoscopic	Low	Good (with experience)	Fast	Moderate (learning curve)
US-guided	Minimal	Indirect	Fast	Unknown / evolving

Note: Choice of technique depends on surgeon expertise, patient anatomy, and available resources.

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