Infantile Scoliosis Outreach Program

Early Treatment With Dr. Mehta's Specialized EDF Casting

Frequently Asked Questions

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Key Questions for Your Pediatric Orthopedic Surgeon

Early and properly applied Mehta/EDF (Elongation–Derotation–Flexion) casting can be an effective, non-surgical treatment for progressive infantile and early-onset scoliosis. The following guide is designed to help families ask informed questions and understand crucial terminology during consultations.

1. What is my child's Cobb angle?

The **Cobb angle** is the standard measurement used to diagnose and monitor scoliosis. It can be measured manually with a pencil and ruler.

- For infants and young children, a Cobb angle **above 20–25°** typically warrants **immediate discussion of early casting**, as early intervention provides the best outcomes.

2. What type of scoliosis does my infant or young child have?

Understanding the type of scoliosis guides treatment decisions. Ask whether your child's curve is:

- **Early-onset / Infantile (non-structural)**
- **Congenital (structural differences present at birth)**
- **Neuromuscular**
- **Syndromic**
- **Juvenile**

Additional Diagnoses to Consider in Early-Onset Scoliosis

Tethered Cord

Possible symptoms include:

- Dimple or birthmark on the lower back
- Tuft of hair on the lower back
- Leg weakness or paralysis
- Foot deformities (clubfoot, high arches)
- Difficulty crawling or walking
- Loss of bladder control; frequent UTIs
- Difficulty standing or sitting upright

Chiari Malformation

Possible symptoms include:

- Feeding or swallowing difficulties
- Excessive drooling, gagging, vomiting
- Stiff neck
- Arm weakness
- Poor weight gain
- Rapid eye movements
- Abnormal reflexes

A **full brain and spine MRI/CT** is necessary to properly diagnose and treat these conditions. If symptoms are present, ask the surgeon about testing as soon as possible.

3. Where is the apex of my child's curve located (cervical, thoracic, lumbar)?

Curve location helps determine the most effective cast type.

- Dr. Mehta and many of the earliest U.S. EDF-trained physicians believe that curves with an apex **at or above T7** are often best treated with **over-the-shoulder casts**.
- Some surgeons do not use shoulder straps—discuss **pros and cons** with your provider.
- For additional insight, ISOP Podcast #3 features Jacques D'Astous, MD (Shriners Salt Lake City), the first U.S. physician trained in Mehta casting, who has applied over 100 Mehta/EDF casts.

Encourage your care team to review emerging research and consider further longitudinal studies on the benefits of properly applied over-the-shoulder casts.

4. What is my child's RVAD (Rib–Vertebral Angle Difference)?

The **RVAD**, developed by Dr. Mehta in the 1970s, helps determine whether a curve is **progressive (>20°)** or **likely to resolve (<20°)**.

- RVAD measures rib orientation relative to the spine, **not rotation**.
- It can be measured manually with basic tools.
- If a surgeon does not use RVAD, they may not specialize in infantile/early-onset scoliosis or Mehta casting.
- RVAD is approximately **80% predictive**, which is far better than having no predictive measure.

5. Does my child's spine show rotation? If so, which phase (1–3)?

Rotation phase influences treatment planning.

- Several methods exist to assess vertebral rotation—ask which technique your surgeon uses.
- Mehta/EDF casting is the **only proven non-surgical method** shown to correct rotation long-term when performed early and correctly.
- Metal implants should be considered **only after** proper EDF casting has been fully attempted.

6. Does the surgeon use Mehta casting as the *first* line of treatment for progressive infantile/early-onset scoliosis?

Ask **why or why not**, and ensure your goals align with the surgeon's clinical approach.

7. Does the facility regularly apply Mehta's specialized EDF (Elongation–Derotation–Flexion) casts?

A cast is **not a true Mehta/EDF cast** unless **manual derotation** is a primary treatment element. This is **not** traditional two-point Risser casting.

8. How long has the facility been applying Mehta/EDF casts?

Experience matters—ask about the team's training, volume, and outcomes.

9. Is the cast applied on an EDF casting frame?

If not:

- Are they using a Spica or Jackson frame?
- Has the frame been modified to allow **gentle traction (elongation)** and **lumbar control/correction (flexion)**?

True EDF casting requires all three components: **Elongation, Derotation, and Flexion**.

10. Will plaster of Paris be the primary casting material?

Many long-standing Mehta practitioners prefer **plaster of Paris** for its superior molding capability.
If fiberglass is used as the primary material, discuss:

- Whether it can **mold and hold** derotation as effectively
- Skin risks associated with fiberglass (rigidity, poor breathability, risk of wounds)
- Whether you are comfortable with these risks, as wound healing delays cast cycles—allowing curve progression.

Connect with other parents for firsthand experiences.

11. How will derotation be achieved—by trained hands or by a derotation strap?

Dr. Mehta and many experienced EDF physicians prefer **manual derotation**, as it allows precise, gentle correction of small vertebrae in infants and young children.

12. Will my child wear a seamless, antimicrobial shirt under the cast, or double stockinette?

Ask whether:

- The shirt can be removed and replaced
- Padding placement will affect shirt changes

13. Will padding be added to bony prominences (hips, rib hump)?

If padding is added beneath the cast, **the shirt cannot be replaced**, which may influence your preferences.

14. Is the team experienced in trimming proper cast windows (front and back)?

Front Window

A wide, mushroom-shaped front window (including rib flaps):

- Reduces risk of chest wall deformity
- Allows comfortable breathing, coughing, vomiting, and daily movement
- Must be large enough for proper clearance and emergency maneuvers (e.g., Heimlich)

Back Window (D-Shaped)

Located on the concave side, not extending past midline:

- Supports normal breathing mechanics
- Allows ribs on the concave side to expand
- Helps flatten prominent ribs on the convex side
- Reduces visible deformity over time

Ask the surgeon to review Dr. Mehta's original study and confirm window strategy prior to casting.

15. How often will casts be replaced based on my child's growth?

Typical intervals:

- **1 year old:** every 2 months
- **2 years old:** every 2–3 months

- **3 years old:** every 3–4 months
- **4 years and older:** approximately every 4 months

Growth rate varies—adjustments should be individualized.

16. What is the surgeon's treatment goal with Mehta casting?

- Is the goal to **correct** your child's scoliosis or merely to **buy time** before surgical intervention?
- Ensure your goals align and revisit this discussion at every appointment.

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