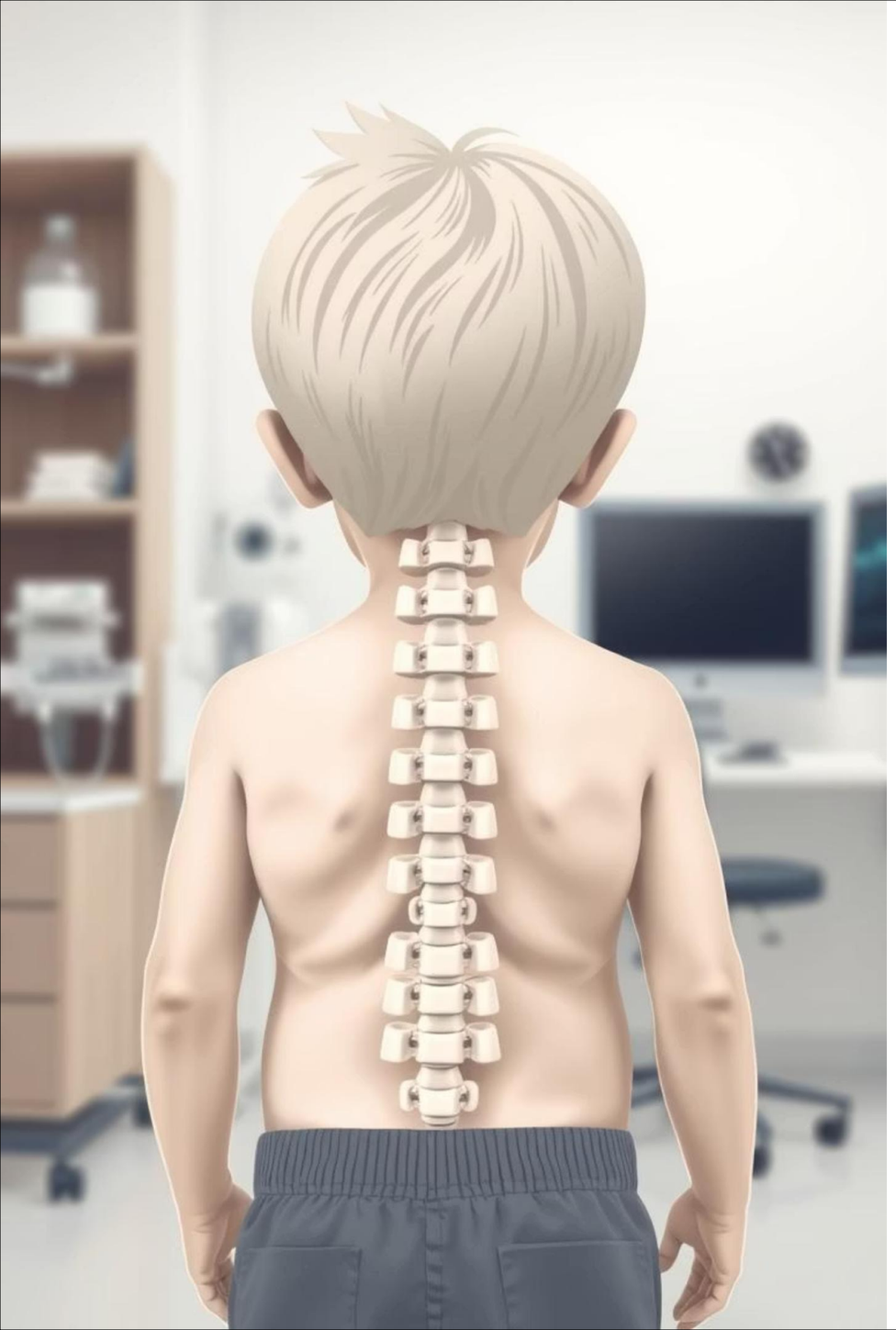

Scoliosis Patient Management: A Comprehensive Approach

Scoliosis is a 3D spinal deformity affecting 2-3% of adolescents. Effective management hinges on early detection and personalized treatment. Our goal is to halt progression, improve function, and enhance quality of life for every patient.

Understanding Scoliosis: Types and Prevalence

Adolescent Idiopathic Scoliosis (AIS)

Most common (80%), typically diagnosed in ages 10-18.

Congenital Scoliosis

Vertebral anomalies present at birth (e.g., hemivertebrae).

Neuromuscular Scoliosis

Associated with conditions like Cerebral Palsy, Muscular Dystrophy.

Adult Degenerative Scoliosis

Often after age 40 due to disc degeneration, affecting 60% of adults over 60.

Diagnosis and Assessment

Clinical Exam

Adam's forward bend test, plumb line deviation, shoulder/pelvic asymmetry.

Radiographic Imaging

Full-spine X-rays (AP/lateral) to measure Cobb angle. A Cobb angle >10 degrees confirms diagnosis.

Progression Risk

Higher in younger patients (Risser 0-2), females, and curves >20 degrees.

Advanced Scans

Non-Surgical Management (Conservative)

Observation

Recommended for curves <25 degrees or skeletally mature patients, with regular monitoring.

Bracing

For curves 25-45 degrees in growing patients (Risser 0-3). Braces like Boston/Cheneau prevent progression in ~72% of cases and reduce surgery need by 50%.

Physical Therapy

Schroth Method exercises de-rotate, elongate, and stabilize the spine. It reduces curve progression in up to 80% of curves <30 degrees, improving posture and reducing pain.

Surgical Management: Indications and Procedures

Indications

- Curves >45-50 degrees (thoracic)
- Significant progression
- Intractable pain

Spinal Fusion

- Most common: permanently joins vertebrae using pedicle screws, rods, and bone graft.
- 50-80% correction, low complication rates (1-2%).

Vertebral Body Tethering (VBT)

- Newer, minimally invasive option for growing spines (Risser 0-3).
- For curves 35-50 degrees (thoracic/lumbar).
- Corrects curves while preserving spinal motion.

Post-Operative Care and Rehabilitation

Initial Recovery

Hospital stay typically 3-7 days after spinal fusion. Multimodal pain management is initiated immediately.

Early Mobilization

Patients are encouraged to get out of bed within 24-48 hours post-operation to promote recovery and prevent complications.

Physical Therapy

Starting 6-12 weeks post-op, focus on core strengthening, balance, and functional mobility. Avoid bending, lifting, twisting (BLT) for 3-6 months.

Return to Activity

Light activities can resume at 3 months, with full activities, including sports, permissible at 6-12 months, depending on individual recovery.

Long-Term Follow-up and Quality of Life

Monitoring

Regular follow-ups (annually, then every 2-5 years) are crucial for long-term spinal health.

Adult Challenges

Potential for back pain and adjacent segment disease (25% incidence over 20 years post-fusion) may arise.

Pregnancy

Conclusion: Personalized, Evidence-Based Care

Multidisciplinary Approach

Collaboration among orthopedists, physical therapists, and orthotists ensures comprehensive care.

Individualized Treatment Plans

Tailored based on curve magnitude, skeletal maturity, symptoms, and patient goals for optimal outcomes.

Early Intervention

Crucial for optimizing treatment outcomes and preventing curve progression.

Continuous Monitoring

Essential for long-term spinal health, addressing potential issues promptly.

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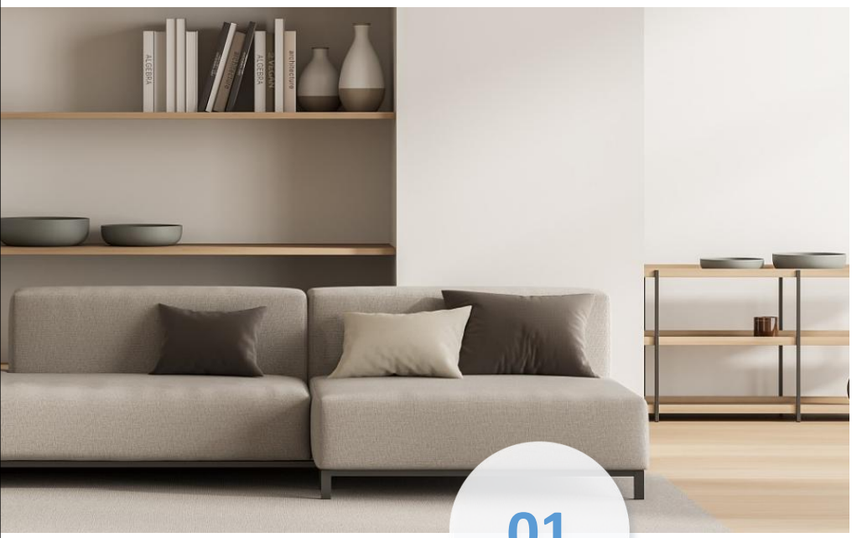

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Conclusion: Personalized, Evidence-Based Care

02

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Presentations are communication tools

03

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