

Scoliosis Screening

Scoliosis screening is a public health strategy aimed at the early detection of spinal curvature abnormalities, especially *idiopathic scoliosis*, in asymptomatic children and adolescents.

Core Elements

- **Target population:** School-aged children, typically between 10 and 14 years old.
- **Primary test:** Forward Bending Test (FBT or Adams test).
- **Measurement tool:** Scoliometer to quantify trunk rotation (angle of trunk rotation, ATR).
- **Confirmatory test:** Radiographic evaluation (Cobb angle).
- **Setting:** Usually performed in schools or primary care facilities.

Goals

- Detect scoliosis **before skeletal maturity**.
- Enable **early non-surgical interventions** (e.g., bracing, physiotherapy).
- Prevent **curve progression and structural deformity**.
- Minimize long-term **functional, aesthetic, and psychological** impact.
- Reduce the burden on **specialized services** (orthopedics, neurosurgery).

⚠ Controversies

- **Low sensitivity** of visual-only screening → missed cases.
- **High false-positive rate** → unnecessary anxiety and referrals.
- **Cost-effectiveness** is debated.
- Lack of **standardization** across countries and regions.
- Potential for **overdiagnosis and overtreatment**.

Ríos-de-Moya-Angeler et al. evaluate a scoliosis screening program (PANA) where attendance drops from 73.2% to 20.5% between age groups, and only 15.3% complete all phases ¹⁾

Conclusion: Evaluating effectiveness in a system with near-zero adherence is methodologically meaningless.

“ This is like reviewing the efficiency of a train that never arrives. ”

❑ 2. Methodological Fragility: Tiny Sample, Inflated Conclusions

From 881 initial subjects, only 127 were followed up — a biased 14.4%. Retrospective reliance on the **visual forward bending test (FBT)** without quantification undermines any clinical validity.

Red flag: You cannot draw robust conclusions from uncalibrated tools and a self-selected cohort.

❑ 3. Diagnostic Tools Misused: FBT ≠ Gold Standard

Visual FBT had only **5.9% sensitivity**, with 11.1% false positives at age 13-14. Only 4% were positive when using a scoliometer $>7^\circ$.

“ It takes 9 years to learn a basic lesson: use an instrument, not your eyes. ”

❑ 4. Circular Reasoning and Policy Naivety

The study calls for better-trained staff and use of the scoliometer in schools, but fails to address:

- Why participation plummeted
- How to ensure long-term compliance
- Barriers at the system or family level

Policy fantasy: More of the same won't fix foundational flaws.

❑ 5. Irrelevance for Specialists

No data on:

- Curve progression
- Radiographic classification
- Referral to spine surgeons
- Surgical need or outcomes

Conclusion: The study is disconnected from real-world scoliosis management and decision-making.

❑ Final Verdict: A Postmortem, Not a Study

This is not a validation — it is an autopsy. With no useful correlation to patient-centered outcomes, this study:

- Documents a failing program,
- Avoids systemic analysis,

- And proposes more of what already doesn't work.

“ Monitoring failure for a decade does not turn it into success. ”

1)

Rios-de-Moya-Angeler R, Santonja-Medina F, Sanz-Mengibar JM, Ríos-Bernabé R, Hurtado-Avilés J, Santonja-Renedo F. Evaluation of a Primary Health Care Scoliosis Screening Program: A 9-Year Follow-Up Study. J Clin Med. 2025 May 30;14(11):3870. doi: 10.3390/jcm14113870. PMID: 40507630; PMCID: PMC12156459.

From:

<https://neurosurgerywiki.com/wiki/> - **Neurosurgery Wiki**

Permanent link:

https://neurosurgerywiki.com/wiki/doku.php?id=scoliosis_screening

Last update: **2025/06/15 19:39**

