

## Case Examples of UCLA Reported “Misses”<sup>1</sup> by Static MRI Detected by FONAR Spondylography™\*

(Case studies provided by FONAR owners)

% Spondylolistheses “Missed” by Static MRI (510 patients)  
40° Flexion

Minimum Slip	L2-3	L3-4	L4-5	L5-S1
3 mm	30.8%	<b>38.7%</b>	<b>35.1%</b>	4%
4 mm	33.3%	<b>53.8%</b>	17.9%	3.5%

“Missed” at L3-4

“Missed” at L4-5



Recumbent  
(Static)



Upright  
(Dynamic)

(Images courtesy of M. Rose, M.D.  
Rose Radiology Centers, Tampa, Florida)



Recumbent  
(Static)



Standing Flexion  
(Dynamic)

(Images courtesy of Melville MRI, P.C.  
Melville, New York)

## Case Examples of UCLA Reported “Misses” of Cervical Disc Bulges Detected by FONAR Spondylography™

(Case studies provided by FONAR owners)

“Miss Rate” of Cervical Disc Bulges 2 mm or Greater Seen in Flexion and Extension Positions But Not Seen in the Neutral Sitting Position (163 patients)

Position Eliciting Disc Bulge	% of Cervical Disc Bulges Greater Than or Equal to 2 mm That Were “Missed” in the Neutral Sit Position But Seen on Flexion or Extension
Flexion	<b>18.18%</b>
Extension	<b>23.75%</b>



Upright Neutral  
(Static)



Upright Extension  
(Dynamic)

(Case Study Courtesy of Richard Marks, M.D.  
Board-Certified Orthopedic Surgeon  
Up and Open Imaging, Dallas, Texas)

<sup>1</sup> Proceedings of the 22nd Annual Meeting of the North American Spine Society, Austin, Texas, October 23-27, 2007, THE SPINE JOURNAL, September/October 2007, Volume 7, Number 5S

\*Spondylography™; definition: The name for FONAR UPRIGHT® Multi-Position™ MRI

---

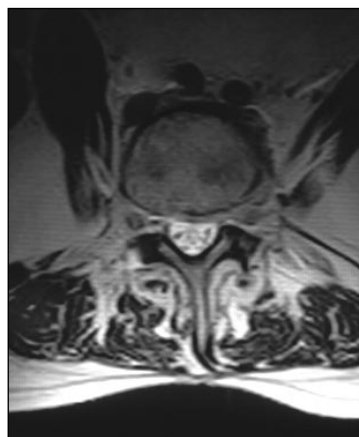
Changes in the Diameter and Cross-Sectional Area of Stenosis of the  
Lumbar Central Canal with Flexion and Extension (461 patients)  
as Measured by FONAR Spondylography™  
(Case studies provided by FONAR owners)



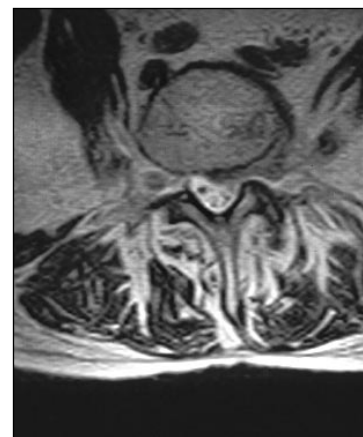
Sitting Flexion



Sitting Extension



Sitting Flexion



Sitting Extension



Supine



Standing

(Images courtesy of Professor Francis Smith, Woodend Hospital, University of Aberdeen, Scotland)

*“Dynamic MRI can demonstrate spinal canal diameter change in lumbar flexion and extension and also show the amount of change in the cross-sectional area with the highest accuracy.” (paper 79)*

To see more case studies illustrating the benefits of Spondylography™, visit [www.fonar.com](http://www.fonar.com)  
or call 1-888-NEED MRI (1-888-633-3674) and ask for a sales representative.