

## SWISS ARTIFICIAL INTELLIGENCE FOR AUTOMATED INTERPRETATION OF MUSCULOSKELETAL MRI

### One-stop-shop for MSK of 4 Body Parts

- Available modules 2026: lumbar spine (US FDA 510(k) cleared).
- Upcoming modules 2027: knee, shoulder, hip.



### Proven by Peer-Reviewed Studies

- Meniscus tear detection and surgery comparison (Skeletal Radiology).
- ACL detection (Investigative Radiology).
- Vertebral body measurements and fracture detection (European Radiology).
- Lumbar spinal stenosis measurements (Investigative Radiology).



### Works With All Major Manufacturers

- Fully automated, AI-based evaluation of MRI studies from all relevant radiology manufacturers.

### Works With All Common Scan Protocols

- Integrates into existing radiological procedures, no protocol adjustments needed.

### Integrates Into Existing Workflows

- No training required.
- Use instantly.

### Uses Existing Infrastructure

- No extensive IT project required.
- Up and running within 30 minutes.

### 2026 Launch of Lumbar Spine Module

- Vertebral Body Measurements and Ratios for Fracture Assessment.
- Foraminal Stenosis Assessment (Lee Grading).
- Disc Degeneration Quantitative Assessment.
- Modic Change Detection.
- Disk Herniation and Spinal Canal Stenosis Assessment.
- 64+ comprehensive measurements, visualized.
- FDA 510(k) cleared in February 2025.

The analysis was performed with software supported by artificial intelligence and machine learning. Measurements (number, reviewed and confirmed by a physician).

Patient and MRI Study Information					
Patient Name	John Doe	Birthdate	19.10.1967	Sex	M
Study Date	10/17/2020	Body part	Lumbar Spine	Modality	MRI
Study UID	1.2.254.0.34.1.1.2345.236239236.2333				
Available series	<ul style="list-style-type: none"> <li>Pd_fm_sag</li> <li>T1_fm_cor</li> <li>Ax_c</li> </ul>	Analyzed series	<ul style="list-style-type: none"> <li>Pd_fm_sag</li> <li>T1_fm_cor</li> </ul>		
Report review	This report was generated by <radiologist-name> at 12.09.2024.				
Result check	All measurements results available				

**Vertebral Body Measurements and Ratios for Fracture Assessment**

VB	Area (mm²)	AH (mm)	MH (mm)	PH (mm)	APB	Angle (°)	APR	SBH (mm)	SBH1 (mm)	MPSR
L1	499	14.8	15.2	15.2	1.2		0.0	0.9	0.9	0.1
L2	557	20.5	23.4	23.4	1.1		4.8	1.0	0.5	0.3
L3	601	16.2	22.1	22.1	0.9		10.2	1.3	0.8	0.6
L4	543	20.3	21.3	21.3	1.2		0.4	1.0	3.4	3.7
L5	503	20.9	15.7	15.7	1.1		-6.7	0.8	0.6	1.0

Burst fracture   
  Wedge / Crush fracture   
  Concave / Biconcave Fracture

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Foraminal Stenosis Assessment (Lee Grading)			
Seg	Left neural foramina	Area (mm²)	Lee Grading
L1		91 mm²	C
L2		102 mm²	A
L3		71 mm²	C
L4		132 mm²	A
L5		65 mm²	A
S1		95 mm²	A

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Disc Degeneration Quantitative Assessment					
Segments	Pfirrmann Grade	area (mm²)	AH (mm)	MH (mm)	PH (mm)
L1/L2	II (0.88)	287.8	7.0	7.1	6.5
L2/L3	III (0.82)	156.3	5.8	5.9	4.7
L3/L4	I (0.91)	343.2	9.3	9.1	8.2
L4/L5	II (0.53)	256.4	8.2	8.1	6.9
L5/S1	I (0.95)	324.5	9.5	9.2	7.8

Modic Change Detection		
Segments	Modic Type	Area (mm²)
L1/L2	-	-
L2/L3	-	-
L3/L4	-	-
L4/L5	Type 1 (0.87)	22.3
L5/S1	Type 1 (0.92)	19.7

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Disc Herniation and Spinal Canal Stenosis Assessment		
Segments	Disc Herniation	Spinal Canal Stenosis
L1/L2	Absent (0.94)	Absent (0.93)
L2/L3	Absent (0.71)	Absent (1.0)
L3/L4	Absent (0.81)	Absent (1.0)
L4/L5	Absent (0.5)	Present (0.78)
L5/S1	Absent (0.75)	Absent (0.87)

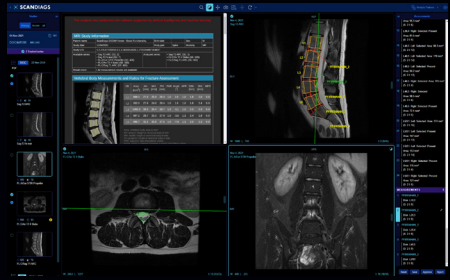
Spinal Canal Stenosis Quantitative Assessment					
Segments	Area (mm²)	AP (mm)	ML (mm)	ML-Lateral (mm)	ML-Medial (mm)
L1/L2	212	9.1	11.2	7.8	8.8
L2/L3	112	6.5	7.8	8.8	8.9
L3/L4	133	5.4	10.5	9.8	8.8
L4/L5	120	8.2	10.5	9.8	8.8
L5/S1	96	7.1	8.8	9.8	8.8

### Comprehensive Report

- Visual and text information, editable.
- Directly in your work environment, no extra software.
- Optional interactive overlay viewer.
- Automatically delivered via DICOM, no extra server installation.
- Runs locally or in the cloud.

### Free Online Demo

<https://demo.emeralgo.com>



### Swiss Radiology Expertise

- Built and nurtured since 2016 in partnership with leading Swiss public and private hospitals and globally leading radiologists.

### Built by Computer Vision Ltd.

- Incorporated 2022 in Zurich, Switzerland (CHE-405.095.116).
- Supported by 200+ Swiss shareholders.
- Swiss team of 15 seasoned data scientists and AI engineers working on medical imaging since 20+ years.

