TECHNICAL REPORT RESETRAY No. № RST-24.01.2026-001

DICOM Data Analysis by Research Software
v2.9.0 (Research Prototype)

1. IDENTIFIERS

Request ID: 24.01.2026-001
Analysis Date: 24.01.2026
Analysis Time: 14:23 UTC
Data Type: MSCT (multislice computed tomography)
Anatomical Region: Cervical spine (C1-Th1)
Contrast Enhancement: None
Data Acquisition Equipment: —
Acquisition Slice Thickness: 0.6 mm (axial projection)
Post-processing: Sagittal, coronal reconstructions
Number of Slices: 287

2. DATA STATUS

- Data has been anonymized. Personal identifiers have been replaced.
- DICOM tags containing metadata have been removed.
- Pixel-level anonymization has been performed (text overlays erased).
- Source data identification is impossible.
- Technical metadata of the study has been preserved.

3. TECHNICAL PARAMETERS

Estimated radiation exposure:
Contrast enhancement: None
Data quality: 0.92 / 1.0 (suitable for analysis, limited by artifacts)
Artifacts: Pronounced linear artifacts from radiopaque objects at the C1-C3 level

4. KEY PATTERNS (SUMMARY)

PRIMARY PATTERN: Integrity disruption of the C2 bone structure

- Location: Odontoid process of the C2 vertebra
- Fragment displacement: 6.8 mm in the dorsal direction
- Signs of incomplete contact of bone fragments
- Model confidence: 98%

SECONDARY PATTERNS (Narrowing of the CSF-containing space)

Level C3/C4: bulging of fibrocartilaginous structure (2.8 mm) — 89%
Level C4/C5: areas of tissue heterogeneity with integrity disruption extending beyond the intervertebral space (4.0 mm) — 97%
Level C5/C6: osteofibrous complex with signs of extension beyond normal boundaries (4.0 mm) — 98%
Level C6/C7: areas of tissue heterogeneity with integrity disruption (3.8 mm) — 98%
Level C6/C7: osteofibrous complex with signs of extension beyond normal boundaries (3.7 mm) — 97%

INCIDENTAL FINDINGS (Structural features)

- Reduction of anatomical curvature — 95%
- Diffuse reduction of intervertebral space height — 97%
- Sclerosis of vertebral endplates (C3-C7) — 96%
- Bone proliferation in the uncovertebral joints (C4-C7) — 95%
- Marginal bone proliferation of vertebral bodies (C3-C7) — 94%

5. RADIOPAQUE OBJECTS

At the C1-C3 level, 2 rods and 6 screws are visualized, fixed within the bone structures. The position of the objects is within the anatomical boundaries of the bone structures. The spinal canal is not deformed. No areas of bone tissue rarefaction around the screws are detected. Model confidence: 99%

6. PROBABILISTIC INDICATORS (REFERENCE)

- Integrity disruption of C2: 98%
- Tissue heterogeneity pattern at C4/C5: 97%
- Osteofibrous complex pattern at C5/C6: 98%
- Tissue heterogeneity pattern at C6/C7: 98%
- Osteofibrous complex pattern at C6/C7: 97%
- Position of radiopaque objects: 99%
- Model's overall confidence: 0.94

7. LEGAL DISCLAIMER

ATTENTION! MUST BE READ

1. This document is a technical report of experimental software. It represents the result of automated analysis of anonymized DICOM files.

2. It is not a medical opinion, diagnosis, or laboratory test result. This document cannot be used for making a diagnosis, prescribing treatment, or any other medical purposes.
3. The results are strictly informational, reference, and research in nature. They may contain errors. The software is experimental, and its results require critical evaluation and verification.
4. Any classifications are provided as reference information based on the training dataset. They are generated automatically, are not final, and cannot serve as a basis for any decisions.
5. The use of the analysis results in any practice, including but not limited to clinical practice, is strictly prohibited. This document is intended solely for technical informational purposes.
6. The final decision regarding the interpretation of the data must be made based on a complete set of information, including, if necessary, the results of additional studies.
7. The data has been anonymized. Identification of the data source is impossible. ResetRay does not collect, store, or process personal data. Any resemblance to real persons is coincidental.
8. The multiple findings identified require comparison with the full scope of available data and cannot be considered in isolation.

9. GLOSSARY OF TECHNICAL TERMS

Bulging of fibrocartilaginous structure
A visual pattern in which the tissue between vertebrae extends beyond its normal contour without signs of integrity disruption.

Areas of tissue heterogeneity with integrity disruption extending beyond the intervertebral space
A visual pattern in which the tissue between vertebrae loses homogeneity, with a rupture of the contour and extrusion of tissue fragments beyond normal boundaries.

Osteofibrous complex with signs of extension beyond normal boundaries
A visual pattern in which a structure of mixed density (bone and fibrous tissue) is identified in the intervertebral space, extending beyond normal boundaries.

CSF-containing space
An anatomical region containing cerebrospinal fluid (CSF), surrounding the structures of the spinal cord and nerve roots.

Intervertebral space
The space between two adjacent vertebrae, which contains the fibrocartilaginous structure.

Radiopaque objects
Artificial objects (metal constructs) visualized in the image due to their high density.

Integrity disruption of bone structure
A visual pattern in which a lucent line is identified within the bone tissue, with separation of fragments.

Model confidence
A numerical value (as a percentage or a fraction between 0 and 1) indicating the degree to which the identified pattern matches reference samples from the training dataset.

9. TECHNICAL SUMMARY

- Integrity disruption of C2 (primary finding): lucent line through the base of the odontoid process involving the vertebral body, fragment displacement of 6.8 mm, signs of incomplete contact of bone fragments
- Radiopaque objects at C1-C3: fixation elements, correct and stable position
- Areas of tissue heterogeneity with integrity disruption (C4/C5, C6/C7): narrowing of the CSF-containing space, model confidence 94-96%
- Osteofibrous complexes (C5/C6, C6/C7): structural changes, multi-level
- Bulging of fibrocartilaginous structure (C3/C4): structural changes, model confidence 89%
- Artifact zone: technical limitation, reduced analysis accuracy at the C1-C3 level

10.GENERAL SUMMARY

The data array shows radiopaque fixation elements at the C1-C3 level and an area of bone structure integrity disruption in the region of the C2 odontoid process (a technical zone of altered density passing through the base of the process and involving the vertebral body), with fragment displacement of 6.8 mm and signs of incomplete contact of the bone fragments.

At the lower levels (C3/C4 – C6/C7), multiple structural changes of the intervertebral spaces are identified, including bulging of fibrocartilaginous structures, areas of tissue heterogeneity with integrity disruption, and osteofibrous complexes — with corresponding signs of narrowing of the CSF-containing space and nerve root exit zones.

All findings are presented with probabilistic assessments by the model.

11.CONTACT INFORMATION

Platform: resetray.ru
Technical support: info@resetray.ru
API Documentation:
Report protocol version: 2.9.0-rc4 (spinal module)