

RAYCARE

Interoperability Requirements



RAYCARE INTEROPERABILITY REQUIREMENTS

This document specifies the requirements on a treatment delivery system to achieve interoperability with RayCare treatment management system. The interoperability requirements are divided into several functionality areas which can be separately scored by the clinic based on the desired level of functionality.

Interoperability level A is required for an efficient workflow in a clinical production environment and means that the TDS vendor fully adheres to the IHE-RO profiles indicated in that sections. Alternatively, level A can also be achieved with protocols that are proprietary to the TDS vendor given that the full specification is shared with RaySearch Laboratories AB, and the TDS vendor provides technical support and interoperability testing with their equipment. All required specifications must be shared with RaySearch Laboratories AB at least 20 months in advance of target install date. Interoperability support at Level B-D involves an increasing number of manual steps in the treatment delivery workflow.

RayCare requires the TDS to provide verification of treatment parameters (internal verification) and software that allows the user to safely deliver treatments and perform position verification.

Treatment scheduling and patient selection

- A. Treatment delivery system shall be able to automatically transfer the daily treatment schedule from RayCare
- B. Treatment delivery system shall be able to automatically transfer the currently selected patient in RayCare
- C. User shall be able to manually search and select patient on delivery device based on information displayed in RayCare

Comment: Covered by TDW and TDW-II profiles.

Treatment delivery

- A. Treatment delivery system shall be able to respond to delivery state in RayCare, for example a patient identification interlock
- B. Treatment delivery system shall be able to continuously transfer delivery status reports to RayCare
- C. Treatment delivery system does not communicate with RayCare during delivery

Comment: Covered by TDW and TDW-II profiles.

Treatment recovery

- A. Treatment delivery system shall be able to automatically manage recovery fractions based on information received from RayCare
- B. Treatment delivery system requires the user to manually manage recovery fractions

Comment: Covered by TDW and TDW-II profiles.

Setup information (lasers, imaging, gating)

- A. **Treatment delivery system** shall be able to receive patient setup information from RayCare and display that on treatment room consoles
- B. **Treatment delivery system** requires RayCare to display setup information on a separate display (synchronized)
- C. **Treatment delivery system** requires RayCare to display setup information on a separate display (not automatically synchronized)

Comment: Covered by TDPC for lasers and gating and IPDW + TPIC for imaging. Selecting Level A requires "Treatment scheduling and patient selection" level A-B

IGRT

- A. Treatment delivery system shall be able to automatically transfer setup images to RayCare before retrieving delivery instructions

- B. Treatment delivery system shall be able to automatically transfer setup images to RayCare
- C. Treatment delivery system shall enable the user to manually import setup images to RayCare
- D. Treatment delivery system does not enable transfer of setup images to RayCare in a standardized format

Comment: Covered by IPDW and TDIC profile drafts. Level A requires short delays to enable for example online adaptation.

Image registration and couch correction

- A. Treatment delivery system allows RayCare to access the acquired setup images, perform an image registration and receive and correct the couch position based on that registration

Couch shift management

- A. Treatment delivery system shall be able to automatically transfer online couch shifts to RayCare
- B. Treatment delivery system shall enable the user to read the couch shifts and manually enter in RayCare

Comment: Covered by TDRC profile.

Treatment records

- A. Treatment delivery system shall be able to automatically transfer treatment records to RayCare
- B. Treatment delivery system shall enable the user to manually import treatment records to RayCare
- C. Treatment delivery system does not enable transfer of treatment records to RayCare in a standardized format

Comment: Covered by TDRC profile.

Nominal dose tracking (such as MU and diode readings)

- A. Treatment delivery system shall be able to automatically transfer dose tracking information to RayCare
- B. Treatment delivery system shall enable the user to read dose tracking information on treatment device and enter in RayCare
- C. Treatment delivery system does not provide dose tracking information

Comment: Covered by CDEB and TDRC profiles.



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