Minutes

Discrete Positioning and Delivery Workflow (DPDW)

Conference Call

April 23, 2019
10:30am – 11:40am EST

DPDW Subgroup Chair:
Thomas Schwere, Varian Medical Systems
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IHERO Task Force Co-Chairs
Bruce Curran, MEng, FAAPM, FACMP, FACR
Bridget Koontz, MD

Mission Statement: *The American Society for Radiology Oncology (ASTRO) has formed a multi-society Task Force to undertake an initiative to promote the Integration of the Healthcare Enterprise (IHE) – Radiation Oncology (RO), fostering seamless connectivity and integration of radiotherapy equipment and the patient health information systems. The Task Force will include members from ASTRO, RSNA, American Association of Physicists in Medicine (AAPM), the American College of Radiology (ACR) and the Medical Imaging and Technology Alliance (MITA). In addition, members of the International community have also been invited to participate in IHE-RO. The IHE-RO Task Force, in close collaboration with radiotherapy product manufacturers, will develop appropriate integration profiles for radiation therapy and setup a demonstration of seamless communication among the full array of radiotherapy products.*

In Attendance:
   Thomas Schwere (Varian)
   Harold Beunk (ICT)
   Sanjay Bari (Elekta)
   Jill Moton (AAPM)

1 Call to Order

The meeting was started at 10:30am EST.

2 IPDW

2.1.   IPDW profile Rev 2.1 Draft1

The chair quickly walked through the latest changes in IPDW profile. There were no changes since the April 2019 IHE-RO TC meeting in Kissimmee. More changes are expected in the profile. For review by other people, these intermediate versions shall be uploaded to the wiki. As long as there is no mature version of the profile, the revision number is post-fixed with Draft x, where x is increased for every version that is published on the wiki.

2.2. How to specify imaging-only task

The group agreed on using existing BDI means to specify an imaging-only task. Beam Task Type "VERIFY" shall be used for that purpose. Instead of delivering the beam the intention is to verify feasibility of the patient positioning.

However, during the Kissimmee that topic was brought up for the use case of positioning the patient for large spinal treatments. This usually requires multiple acquisitions/registrations together with couch movements in between to ensure that the patient/spine is properly aligned over the entire length.

This may require a dedicated positioning procedure at the very beginning using a certain protocol, e.g. "Full Body Positioning". A smart PDS can then translate this into multiple steps specific to that particular PDS/protocol.

A procedure consists of:
- UPS workitem code (required)
- Protocol code (optional)
- Scheduled Processing Parameters (optional)

Two options to specify a procedure:
- Use very specific workitem codes: more workitem codes, less parameters
- Use less specific workitem codes: less workitem codes, more parameters

The parameters shall be handled in a safe way:
- In case of unknown parameters, the PDS shall CANCEL the UPS with an appropriate cancelation reason code.
- Supported parameters shall be documented in the vendor's DCS.

2.3. Alternative Procedures

Specifying alternative procedures (e.g. kV CBCT vs. kV/kV): The alternative procedures shall share the same Radiation Task Identifier. There is no need to further specify which UPS of a radiation task belong together. The dependencies of the UPS can be determined by their workitem codes.

2.4. Re-performing of procedures

Using new UPS instances seems to be the way to go.

We may introduce an optional scheduling actor that creates new UPS instances (either in-session or out-of-session). Both TMS and PDS can play the role of this scheduling actor.

Re-positioning in the middle of treatment delivery because of patient movement:

Close treatment UPS? Internal continuation?

2.5. Deviation to the initially Scheduled Procedures

Topic deferred to the next call.

3 <u>Adjournment</u>

The meeting was adjourned at 11:35am EST.

Appendix A: Administration and Process Information

Documents are published at the following locations. If you have problems in accessing the document, please contact the Chair (thomas.schwere@varian.com).

Process of Authoring:

Steps:
1. Download a local copy of the document from locations below
2. Open this copy and remove all change bars
3. Ensure, that Changes Bars are switched on
4. **Make your changes**
5. Provide the updated version to the Chair

Location of Documents:

DPDW Subgroup Minutes

http://wiki.ihe.net/index.php?title=RO_DPDW_WorkingGroup

DPDW Profile

The DPDW Profile is an IHE-RO document.

The current version is available in the IHE-RO Org Wiki:

http://www.ihe-ro.org/

Please find the current document under this page:

http://www.ihe-ro.org/doku.php?id=doc:profiles

Supp 160

DICOM Supplement 160 (Patient Positioning and Workflow) in s DICOM WG-07 document.

The current version is available at the DICOM ftp server:

ftp://d9-workgrps:goimagego@medical.nema.org/MEDICAL/Private/Dicom/WORKGRPS/WG07/Sup/Sup160_PatientPositioningAndWorkflow

Mailing List:

The mailing list for the DPDW subgroup is:

2018.iherodpdw@aapm.org

Appendix B: Task Assignments

Per end this TCon (2015-01-27).

No	TX / Area	Old Number	Title	Group	Owner
1	./.	./.	Use Case Delivery-Device Independent Imaging		David Wikler
2	RO-DPD-200	RO-DPD-01	Worklist Query for Positioning Acquisition	Acquisition	Martin Vonach
3	RO-DPD-201	RO-DPD-02	Retrieve Device Position Information	Acquisition	Martin Vonach
4	RO-DPD-202	RO-DPD-03	Request RT Patient Position Correction	Correction	Martin Vonach
5	RO-DPD-203	RO-DPD-04	Store RT Patient Position Modification Instruction	Correction	Martin Vonach
6	RO-DPD-204	RO-DPD-05	Store RT Repositioning Results to Object Storage	Correction	Martin Vonach
7	RO-DPD-205	RO-DPD-06	Worklist Query for Repositioning	Correction	Martin Vonach
8	RO-DPD-206	RO-DPD-07	Notify on Radiation Delivery Status Change	Delivery	Thomas Schwere, Sanjay Bari
9	RO-DPD-207	RO-DPD-08	Retrieve RT Patient Position Correction Instruction	Correction	Martin Vonach
10	RO-DPD-208	RO-DPD-09	Subscribe/Unsubscribe to Treat UPS Status	UPS Notification	Thomas Schwere
11	RO-DPD-209	RO-DPD-10	Notify on Radiation State	Delivery	Thomas Schwere, Sanjay Bari
12	RO-DPD-210	RO-DPD-11	Retrieve Positioning Acquisition Results	Registration	Chris Pauers
13	RO-DPD-211	RO-DPD-12	Worklist Query for Positioning Registration	Registration	Chris Pauers
14	RO-DPD-212	RO-DPD-13	Worklist Query for Position Monitoring	Monitoring	Stephen Phillips
15	RO-DPD-213	RO-DPD-16	Store Monitoring Results to Object Storage	Monitoring	Stephen Phillips
16	RO-DPD-214	RO-DPD-17	UPS Final Update at Session Termination	Framework	Thomas Schwere, Sanjay Bari
17	RO-DPD-215	RO-DPD-18	UPS Completed / Cancelled at Session Termination	Framework	Thomas Schwere, Sanjay Bari
18	RO-DPD-216	RO-DPD-19	Indicate Ready for Monitoring	Monitoring	Stephen Phillips
19	RO-DPD-217	RO-DPD-20	Notify Device to start UPS	UPS Notification	Thomas Schwere, Sanjay Bari
20	RO-DPD-218	RO-DPD-21	Create Positioning Acquisition and Positioning Registration UPS	Workflow	Thomas Schwere

No	TX / Area	Old Number	Title	Group	Owner
21	RO-DPD-219	RO-DPD-22	Create Treat UPS and Radiation Delivery Instruction for Continuation	Workflow	Thomas Schwere
22	RO-DPD-220	RO-DPD-23	Notify Treatment Session Actors on Starting Session	UPS Notification	Thomas Schwere, Sanjay Bari
23	RO-DPD-221	RO-DPD-24	Notify Device to stop UPS	UPS Notification	Thomas Schwere, Sanjay Bari
24	RO-DPD-222	RO-DPD-25	UPS Progress Update for Discrete non-Treatment Steps	UPS Notification	Thomas Schwere, Sanjay Bari
25	RO-DPD-223	RO-DPD-26	Worklist Query for Positioning Correction Reconciliation	Registration	Chris Pauers
26	RO-DPD-224	RO-DPD-27	External Verification	External Verification	Sanjay Bari
27	RO-DPD-225	./.	Notify Device to resume UPS	Monitoring	Stephen Phillips
28	RO-DPD-226	./.	Create new Positioning UPS	Monitoring	Stephen Phillips
29	RO-DPD-227	./.	UPS Final Update after Positioning Information Acquisition	Workflow	
30	RO-DPD-228	./.	UPS Final Update after Treatment Interruption	Workflow	Thomas Schwere