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MICHIGAN RADIATION ONCOLOGY QUALITY CONSORTIUM

PHYSICS & DOSIMETRY BREAKOUT SESSION

February 18, 2025

HOUSEKEEPING

Make sure your name appears in the Zoom participant list. Change phone numbers to your first and last name

Unmute yourself or use the chat to ask questions at any time

Watch for polls during the presentation

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AGENDA

- New and updated resources
- New directions in bone mets
- Open discussion

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RESOURCES

RESOURCES

New:

- Power BI reports
- Physics Data Checker error for TG263
- Guidance document for additional OARs for lung patients

Updated:

- Tip Sheet
- Training Materials

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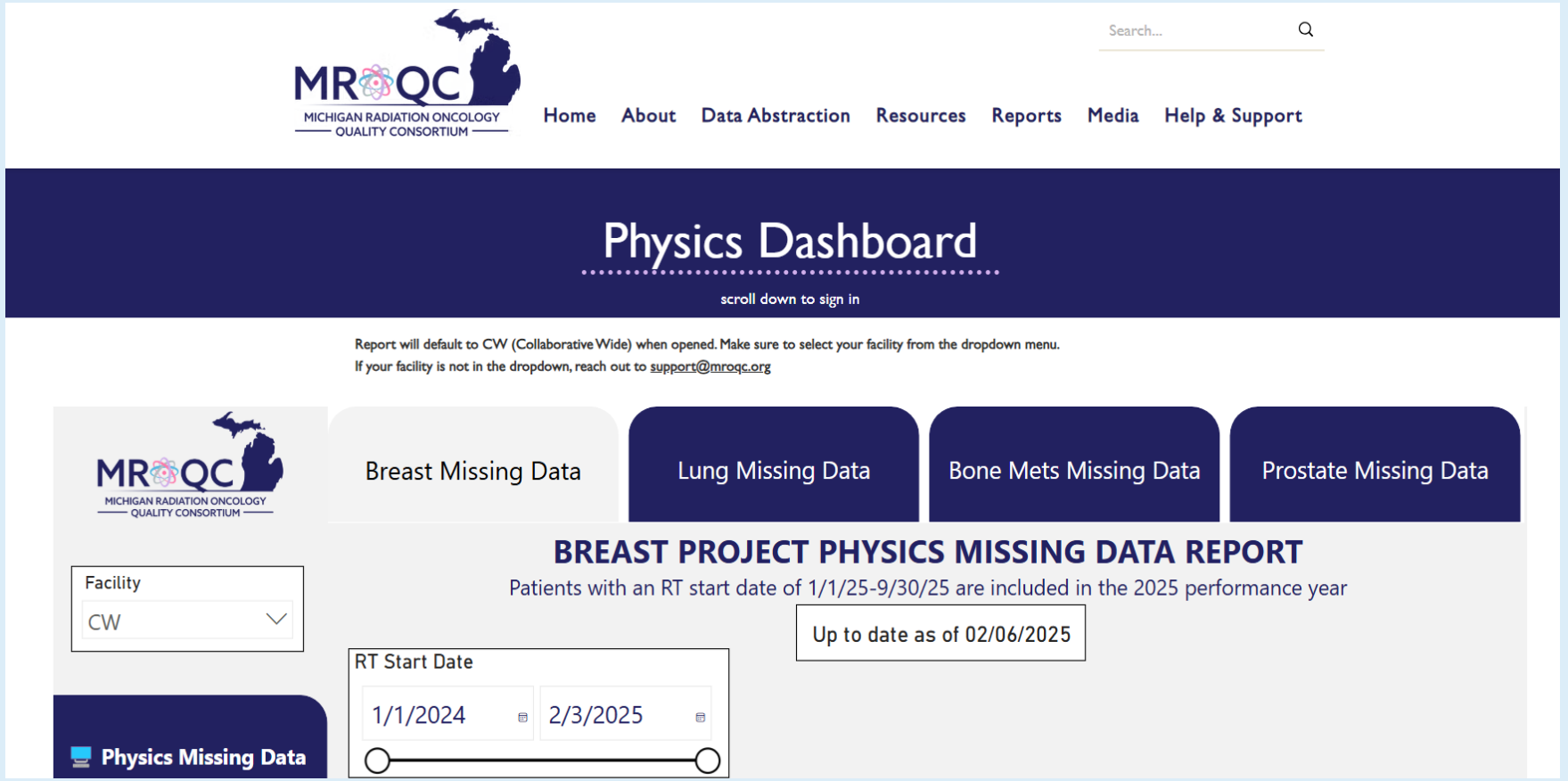
POWER BI REPORTS

MROQC reports are now available in Power BI!



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POWER BI REPORTS

Access the reports via the MROQC web site

Authenticate with your facility's credentials

Launched:

- Facility Performance Dashboard
- Physics Dashboard
- P4P Scorecards (review by 2/24!)

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POWER BI REPORTS

Notes:

- Reports default to facility CW. You should see your facility's letter code in drop-down menu
- Reports are available from 7 AM to 7 PM
- Reports are refreshed three times during the week. Check the "Up to date as of" statement at the top of the report
- Share anonymous feedback via the link above each report or send directly to support@mroqc.org

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PHYSICS DATA CHECKER UPDATES

- Any missing TG-263 structures will be flagged as a data checker error
- All required structures will be added as data checks soon (credit received on data quality measure)
- Will apply to all patients with an RT start date in 2025

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PHYSICS DATA CHECKER UPDATES

Required Structures:

- Breast: PTV_Breast/Breast, PTVsb, CTVsb, Heart, Ipsi Lung, Lymph node structures (for node positive patients)
- Lung: GTV/IGTV/ITV, PTV, Esophagus, heart, normal lung, spinal cord/canal. **If within 2 cm:** Chestwall/Rib, GreatVes, Bronchus_Prox
- Mets: PTV
- Prostate: CTVp/CTVsb, PTVp/PTVsb, Bladder, Rectum

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GUIDANCE ON OARS FOR LUNG PATIENTS

New requirement for lung patients:

If within 2 cm of any PTV, include a contour for

- Chestwall/Rib
- Great Vessels
- Proximal Bronchial Tree

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GUIDANCE ON OARS FOR LUNG PATIENTS

Global Harmonization Group guidelines reference the 2011 RTOG Lung Atlas

Published in final edited form as:
Int J Radiat Oncol Biol Phys. 2011 December 1; 81(5): 1442–1457. doi:10.1016/j.ijrobp.2010.07.1977.

CONSIDERATION OF DOSE LIMITS FOR ORGANS AT RISK OF THORACIC RADIOTHERAPY: ATLAS FOR LUNG, PROXIMAL BRONCHIAL TREE, ESOPHAGUS, SPINAL CORD, RIBS, AND BRACHIAL PLEXUS

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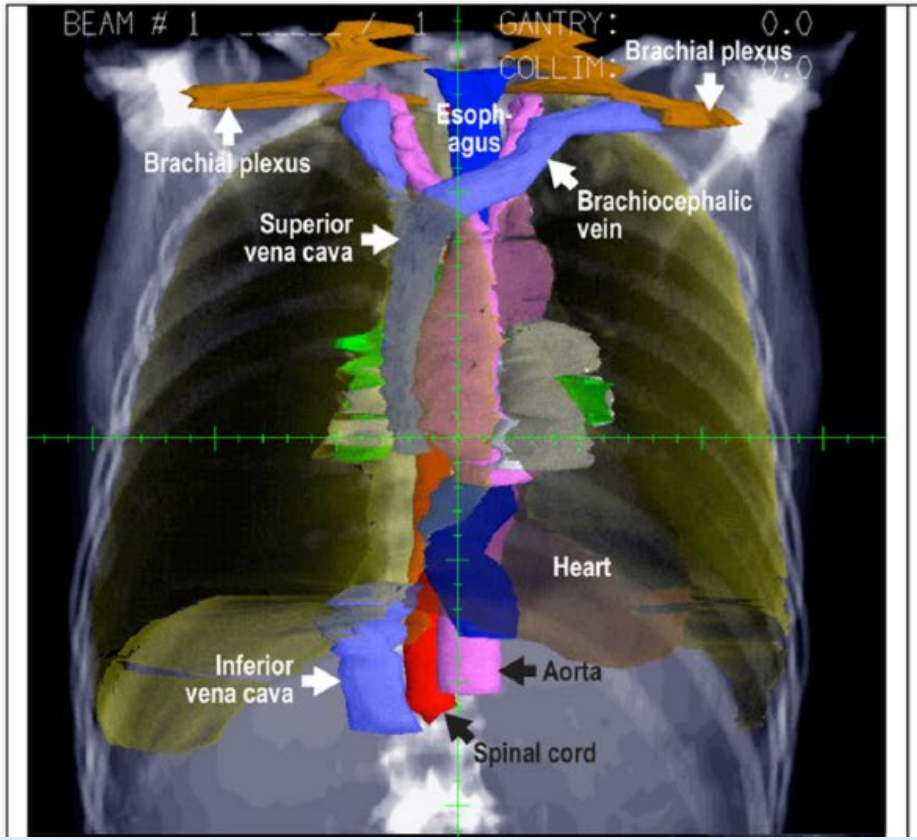
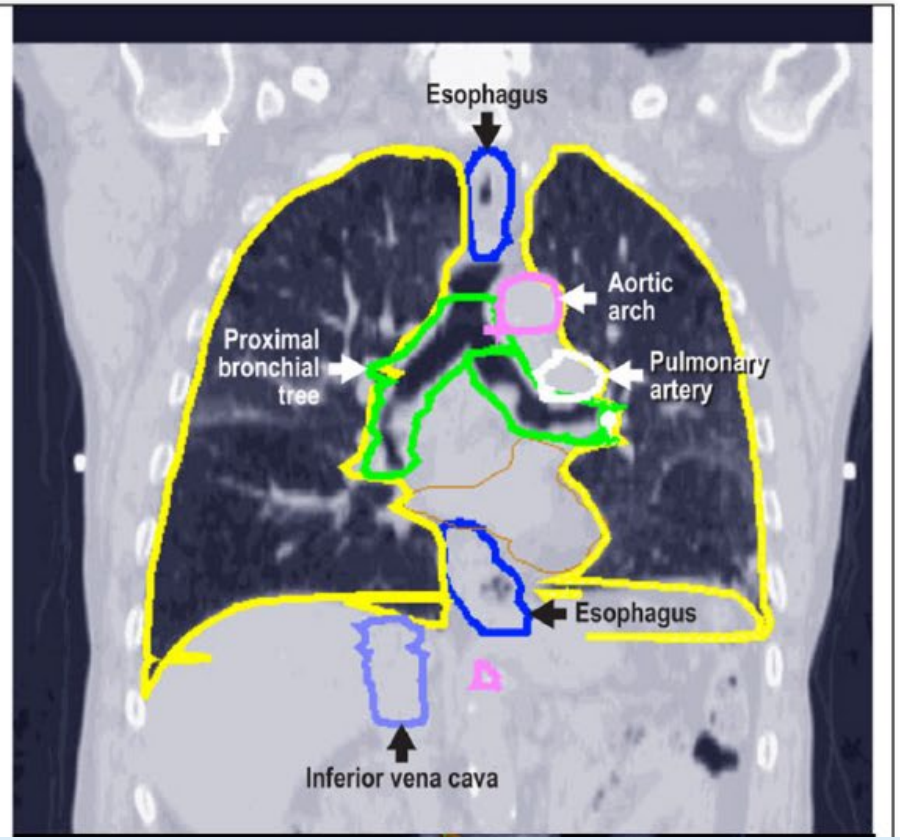
GUIDANCE ON OARS FOR LUNG PATIENTS





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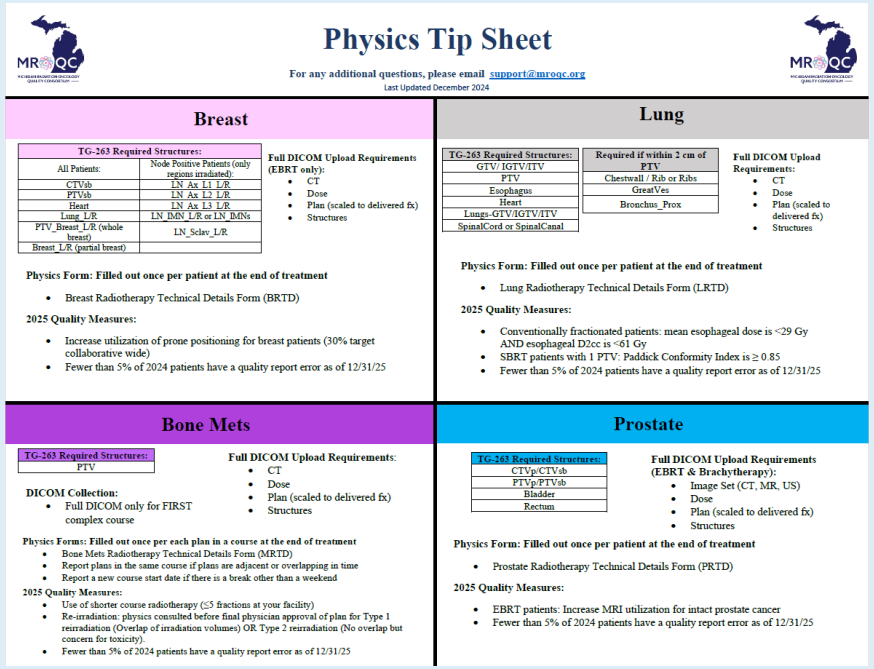
UPDATED TIP SHEET

-Available on MROQC website

-Includes target naming principles on second page



Physics Tip Sheet

For any additional questions, please email support@mroqc.org

Last Updated December 2024

Breast

TG-263 Required Structures:	
All Patients:	Node Positive Patients (only regions irradiated):
CTVsb	LN_Ax_L1_L/R
PTVsb	LN_Ax_L2_L/R
Heart	LN_Ax_L3_L/R
Lung_L/R	LN_IMN_L/R or LN_IMNs
PTV_Breast_L/R (whole breast)	LN_Sclav_L/R
Breast_L/R (partial breast)	

Full DICOM Upload Requirements (EBRT only):
- CT
- Dose
- Plan (scaled to delivered fx)
- Structures

Physics Form: Filled out once per patient at the end of treatment
- Breast Radiotherapy Technical Details Form (BRTD)

2025 Quality Measures:
- Increase utilization of prone positioning for breast patients (30% target collaborative wide)
- Fewer than 5% of 2024 patients have a quality report error as of 12/31/25

Lung

TG-263 Required Structures:	Required if within 2 cm of PTV
GTV/ IGTV/ITV	Chestwall / Rib or Ribs
PTV	GreatVes
Esophagus	Bronchus_Prox
Heart	
Lungs-GTV/IGTV/ITV	
SpinalCord or SpinalCanal	

Full DICOM Upload Requirements:
- CT
- Dose
- Plan (scaled to delivered fx)
- Structures

Physics Form: Filled out once per patient at the end of treatment
- Lung Radiotherapy Technical Details Form (LRTD)

2025 Quality Measures:
- Conventionally fractionated patients: mean esophageal dose is <29 Gy AND esophageal D2cc is <61 Gy
- SBRT patients with 1 PTV: Paddick Conformity Index is ≥ 0.85
- Fewer than 5% of 2024 patients have a quality report error as of 12/31/25

Bone Mets

TG-263 Required Structures:
PTV

DICOM Collection:
- Full DICOM only for FIRST complex course

Full DICOM Upload Requirements:
- CT
- Dose
- Plan (scaled to delivered fx)
- Structures

Physics Forms: Filled out once per each plan in a course at the end of treatment
- Bone Mets Radiotherapy Technical Details Form (MRTD)
- Report plans in the same course if plans are adjacent or overlapping in time
- Report a new course start date if there is a break other than a weekend

2025 Quality Measures:
- Use of shorter course radiotherapy (≤5 fractions at your facility)
- Re-irradiation: physics consulted before final physician approval of plan for Type 1 reirradiation (Overlap of irradiation volumes) OR Type 2 reirradiation (No overlap but concern for toxicity).
- Fewer than 5% of 2024 patients have a quality report error as of 12/31/25

Prostate

TG-263 Required Structures:
CTVp/CTVsb
PTVp/PTVsb
Bladder
Rectum

Full DICOM Upload Requirements (EBRT & Brachytherapy):
- Image Set (CT, MR, US)
- Dose
- Plan (scaled to delivered fx)
- Structures

Physics Form: Filled out once per patient at the end of treatment
- Prostate Radiotherapy Technical Details Form (PRTD)

2025 Quality Measures:
- EBRT patients: Increase MRI utilization for intact prostate cancer
- Fewer than 5% of 2024 patients have a quality report error as of 12/31/25

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UPDATED TRAINING MATERIALS

- New training document will available on MROQC website soon
- Still contains information on project requirements and DICOM submission tips
- Includes detailed guidance on using physics PowerBI reports

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NEW DIRECTIONS IN BONE METS

BONE METS SMPC QUALITY MEASURE

For 50% or more of bone mets reirradiation cases, it is documented that physics was consulted before final physician approval of a plan for Type 1 reirradiation *(Overlap of irradiation volumes with or without concern for toxicity from cumulative doses)* **OR Type 2 reirradiation** *(No overlap of irradiated volumes but concern for toxicity from cumulative doses).*

≥50% of bone mets reirradiation cases received a physics consult	8
<50% of bone mets reirradiation cases received a physics consult	0

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BONE METS SMPC QUALITY MEASURE

Please tell us about your facility's current SMPC process

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BONE METS SIB PROJECT

Investigating use of simultaneous integrated boost for bone mets patients

- SIB reported for
  - 122 patients treated with IMRT and/or SBRT
  - From 17 facilities
  - Including all treatment sites (hip, rib, femur, spine, etc.)

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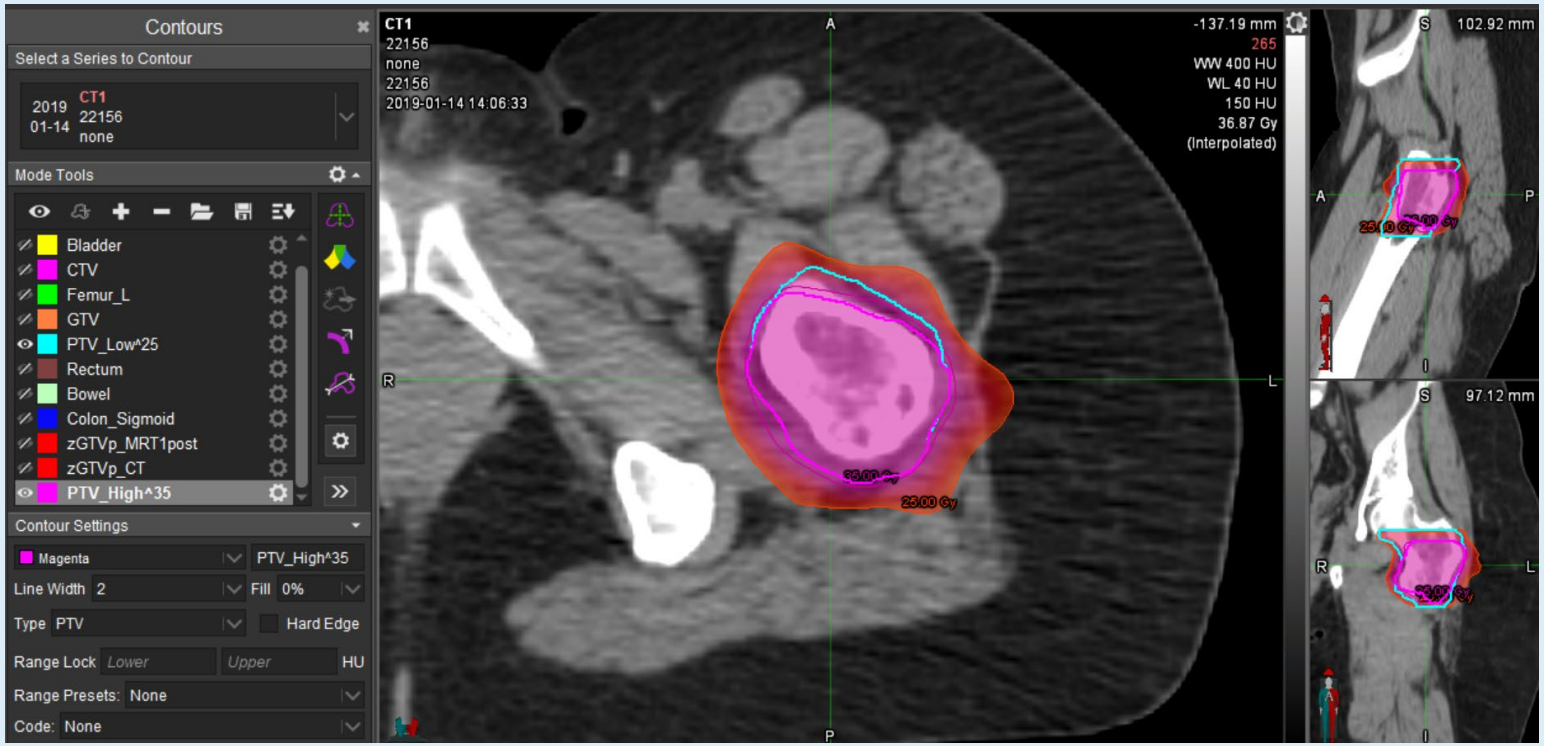
BONE METS SIB PROJECT

Example: Femur SIB, treated to 25 Gy and 35 Gy in 5fx



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OPEN DISCUSSION

OPEN DISCUSSION

Any interest in other physics data related projects?

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Thank you for joining us today!

We will see you online at the Collaborative-Wide Meeting on Friday, February 28th at 9 AM

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