

Systematic Review: Radiation Therapy for Brain Metastases

A PCORI Virtual Multi-Stakeholder Workshop

August 20th, 2019

Housekeeping

- Participants' lines are live
 - Please mute your line when you are not speaking to reduce background noise
- Today's conversation is being recorded and will be posted to the PCORI website
- We will take stakeholder comments in the order indicated
- If you wish to speak during the open comments/questions period, please indicate this by typing using the "raise hand" function or you can type "permission to speak" in the chat box
- Comments and questions from participants may be submitted via the chat window
 - We cannot guarantee a question will be addressed

Agenda



Agenda

- Welcome
- Background and goals for the webinar:
 - Background
 - Proposed Systematic Review Key Questions (KQs)
 - PICOTS
- Moderated discussion
- Summary and closing remarks
- Adjourn

Welcome and Introductions



Welcome!



Today's PCORI Representatives:

- **Jennie D. Bowen MPH**, Program Officer, Science, Research Synthesis, PCORI
- **Bill Lawrence, MD, MS**, Senior Clinical Advisor, Office of the Chief Engagement and Dissemination Officer, PCORI

Organizations and their Representatives

Representatives



- **Metastatic Breast Cancer Alliance (MBC Alliance)**
 - **Lynda Weatherby**, Executive Group Member
- **American Association of Neurological Surgeons/Congress of Neurological Surgeons (AANS/CNS)**
 - **Jeffrey Olson, M.D.**, Professor of Neurosurgery, Emory University School of Medicine

American Society of Clinical Oncology (ASCO)

- **David Schiff, M.D.**, Departments of Neurology, Neurological Surgery, and Medicine, University of Virginia

Background



Background and Goals

- **Background:** PCORI is commissioning, via the Agency for Healthcare Research and Quality (AHRQ), a systematic evidence review on radiation therapy for brain metastases.
- **Radiation Therapy for Brain Metastases Systematic Review goals:**
 - To assess the effectiveness and harms of various radiation therapy treatments in treating brain metastases.
 - To identify and synthesize evidence necessary to support the development of a new clinical practice guideline by the American Society for Radiation Oncology (ASTRO).
- **Goal for this webinar:** To receive input on the Key Questions and PICOTs.

Questions for Participants

- We are asking participants to provide their thoughts on the planned systematic review and the research questions (see Key Questions in subsequent slides).
- Please provide any feedback you have OR
- Address one of the following sample questions:
 - How would a current systematic review in this topic area be helpful?
 - Do you have input on the treatments, comparisons, outcomes or populations that should be considered as the review protocol is refined?
 - What are other important patient characteristics not reflected in the key questions?
 - Are there nuances regarding this topic not adequately captured by the key questions?

Proposed Systematic Review Key Questions (KQs)



What is a systematic review?

- A systematic review evaluates and synthesizes the available evidence from a body of research.
- It is a thorough and detailed review of all of the evidence on a topic and, when well-conducted, effectively employs strategies to minimize bias.
- Primary **goals of a systematic review** are to:
 - Provide access to high-quality evidence from research
 - Highlight the quality of existing studies
 - Guide future research
 - Establish core building blocks for clinical and policy guideline development
- See Cochrane Consumer Network [“What is a systematic review?”](#)

KQ 1: What is the effectiveness of WBRT, alone or in combination with SRS or systemic therapies, as initial treatment in patients with BM, on patient-relevant outcomes and how does effectiveness vary by dose fractionation schedule, patient prognosis and primary tumor site?



Population	Adults \geq 18 years old with brain metastases resulting from lung cancer, breast cancer or melanoma
Intervention	Initial WBRT
Comparator	Initial WBRT +/- SRS or systemic therapy, placebo or usual care
Outcomes	Overall, disease-specific, & progression-free survival, Cancer recurrence/control, QOL, function, neurocognition, Adverse events
Timing	Follow-up not limited
Setting	Inpatient & outpatient
Study design	RCTs

KQ 2: What is the effectiveness of SRS as initial treatment in patients with BM on patient relevant outcomes and how does effectiveness vary by dose fractionation schedule and addition of systemic therapies?



Population	Adults \geq 18 years old with brain metastases resulting from lung cancer, breast cancer or melanoma
Intervention	Initial SRS
Comparator	Initial SRS +/- systemic therapy, placebo or usual care
Outcomes	Overall, disease-specific, & progression-free survival, Cancer recurrence/control, QOL, function, neurocognition, Adverse events
Timing	Follow-up not limited
Setting	Inpatient & outpatient
Study design	RCTs

KQ 3: What is the effectiveness of postoperative SRS compared to WBRT or observation in patients with BM on patient-relevant outcomes and how does effectiveness vary by dose fractionation schedule?



Population	Adults \geq 18 years old with brain metastases resulting from lung cancer, breast cancer or melanoma
Intervention	Postoperative SRS
Comparator	Postoperative WBRT, observation
Outcomes	Overall, disease-specific, & progression-free survival, Cancer recurrence/control, QOL, function, neurocognition, Adverse events
Timing	Follow-up not limited
Setting	Inpatient & outpatient
Study design	RCTs

KQ 4: What are the adverse effects of WBRT, SRS, and systemic therapies for patients with BM?

Population	Adults \geq 18 years old with brain metastases resulting from lung cancer, breast cancer or melanoma
Intervention	WBRT, systemic therapy, SRS
Comparator	WBRT, systemic therapy, SRS
Outcomes	Overall, disease-specific, & progression-free survival, Cancer recurrence/control, QOL, function, neurocognition, Adverse events
Timing	Follow-up not limited
Setting	Inpatient & outpatient
Study design	RCTs Prospective observational studies \geq 200 participants

Moderated Discussion

Moderator: Bill Lawrence, MD, MS



Order of Comments

- **Metastatic Breast Cancer Alliance (MBC Alliance)**
- **American Association of Neurological Surgeons/Congress of Neurological Surgeons (AANS/CNS)**
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Key Questions

- **KQ1:** What is the effectiveness of WBRT, alone or in combination with SRS or systemic therapies, as initial treatment in patients with BM on patient-relevant outcomes and how does effectiveness vary by dose fractionation schedule, patient prognosis and primary tumor site?
- **KQ2:** What is the effectiveness of SRS as initial treatment in patients with BM on patient relevant outcomes and how does effectiveness vary by dose fractionation schedule and addition of systemic therapies?
- **KQ3:** What is the effectiveness of postoperative SRS compared to WBRT or observation in patients with BM on patient-relevant outcomes and how does effectiveness vary by dose fractionation schedule?
- **KQ4:** What are the adverse effects of WBRT, SRS, and systemic therapies for patients with BM?

Open Comments and Questions Period



Summary and Closing Remarks



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Thank you!

