Abstract ID: 17155  Title: Planning, QA, and the Role of Imaging of Localization for Head and Neck Treatments

This educational session is designed to provide practical perspective on head and neck treatment planning and delivery. The panel will draw from their own and the shared experiences of the other panelists to provide a comprehensive discussions of the issues and decisions encountered daily as part of treating patients with head and neck cancer.

Contouring, PTV and Organ at Risk Doses: a Physician’s perspective - How a physician approaches the question of a practical balance between doses to target and proximal normal tissues will be explored and implications of contouring approaches will be considered.

- Use and implications of hand drawn PTV vs CTV + margin = PTV
- Organs at risk
- Dose trade-offs
- Planning process: When is it good enough? Is the difference between plans clinically observable or art? What dose levels, that can be affected in planning, produce results that are observed in practice?

Treatment Planning - Strategies in beam selection, contouring of dose sculpting structures and in setting of constraints to enable for driving IMRT optimizers to achieve the balance sought by the physician for targets treated at multiple concurrent dose levels will be discussed. Process flow and time to create plans will be discussed.

- Dose Sculpting Structures
- Beam selection (IMRT vs VMAT)
- Optimization strategies

Patient Positioning Options and Imaging Strategies – The ability of the treatment plan to accurately reflect delivered doses, is linked to the ability to reliably set up and verify the same patient position as in the original CT. A range of typical questions and practical approaches will be discussed.

- Patient Positioning Options: Head cup + aquaplast, vac-loc bag, alpha cradle based, bite block, etc.
- Imaging
  - kV vs Conebeam
  - Image treatment fields or just setup fields?
  - How frequently should fields be imaged?
  - Decision tree for use of MV, kV, ConeBeam
  - Use of blended imaging tools for checking measured vs predicted DRR or ConeBeam?
  - When it doesn’t align, then what?

IMRT QA – There are wide array of devices and measurements for QA of IMRT fields. This presentation will address issues encountered in designing practical approaches to
demonstrate that the dose planned for a patient can be delivered with acceptable accuracy. The strengths and weaknesses of QA approaches will be discussed.

- Measurement devices, strategies and basis for choice
- Is gamma analysis alone sufficient? What else is used instead?