HyTEC: Goals, Accomplishments, Challenges, Future

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Disclosures

Marks Grants:
Current: NIH, CDC
Recent: Lance Armstrong, Dept Defense

Dept Grants:
Past: Accuray/Tomotherapy, SunNuclear
Marks: Unpaid “Consultant” BCBS, SunNuclear, Morphormics, Elekta, IBA

QUANTEC:
QUantitative Analysis of Normal Tissue Effects in Clinic
NTCP only. Mostly conventional fractionation
Some hypo-fractionation: brain, lung, liver

HyTEC:
Hypofractionated/High Dose Tissue Effects in Clinic
NTCP and TCP
Jimm Grimm et al, AAPM effort

Goal: Summarize dose/volume/outcome data
Not a guideline!!
AAPM Working Group: SBRT

Thank you AAPM!

SBRT: effective local therapy
   “Locally-Cure” primary or metastatic lesions
   ↑ Early-stage cancers (e.g. lung); screening, imaging
   ↑ Oligo-mets: imaging (e.g. PET)
   SBRT exciting growing role!!

HyTec: Define the dose/volume/outcome data


“We propose the existence of a clinical significant state of oligometastases limited in number and location ...”

Hellman S, Weichselbaum RR. Oligometastases. JCO 1995

Courtesy Mike Milano, Univ Rochester

SRS/SBRT to the Primary or mets we see

Systemic agents for the disease we do not see
### Anatomic Groups and Leaders

#### Steering Committee: Jimm Grimm, Ellen Yorke, Andy Jackson, Jinyu Xue, Brian Kavanagh, Larry Marks

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<td>Brain</td>
<td>Scott Soltyss</td>
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There are numerous other physician and physicist leaders in several of these groups, and many other hard working members.

Every anatomic group has at least one physician leader and at least one physicist leader.

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**Today:** Lijun Ma: Cord NTCP and Stan Benedict: Spine TCP
• HyTec: Lung TCP
• Percy Lee et al

Rate of Pneumonitis; Grade ≥ 2

• HyTec: Lung NTCP; Spring Kong, Vitali Moiseenko, Ellen Yorke, et al
HyTec: Optic Nerve NTCP; Mike Milano et al

HyTec: Liver NTCP; Enzymes; Moyed Miften

Next speakers:

Today: Lijun Ma: Cord NTCP and Stan Benedict: Spine TCP

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Acknowledgments

• Jimm Grimm: Force behind this all
• HyTEC Steering Committee: Jimm Grimm, Ellen Yorke, Andy Jackson, Jinyu Xue, Brian Kavanagh, Larry Marks
• HyTEC Authors, ASTRO, AAPM; Reviewers
• PENTEC: Sandy Constine et al
• Emami et al, Rubin, Cooper, Phillips, et al

AAPM Working Group: SBRT

AAPM lead effort
Mega-thanks to the AAPM Staff and leadership and many members

Physicists ↔ Clinicians

AAPM ↔ ASTRO