



modern radiotherapy & motion management in NSCLC

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outline

- general facts
- radiotherapy in NSCLC
- motion management

general facts

general facts

- lung cancer: most common cause of cancer death
- NSCLC most common type
- 17% localized; 22% locally advanced; 57% distant
- comorbidities

general facts

- complex treatment often involving:

surgery

radiotherapy

systemic therapies (ChT, immunotherapy, targeted agents)

general facts

- radiotherapy:

77% of all pts evidence based indication at some point
5 y local control gain of 8% and survival of 4%

radiotherapy in NSCLC

Stage I NSCLC

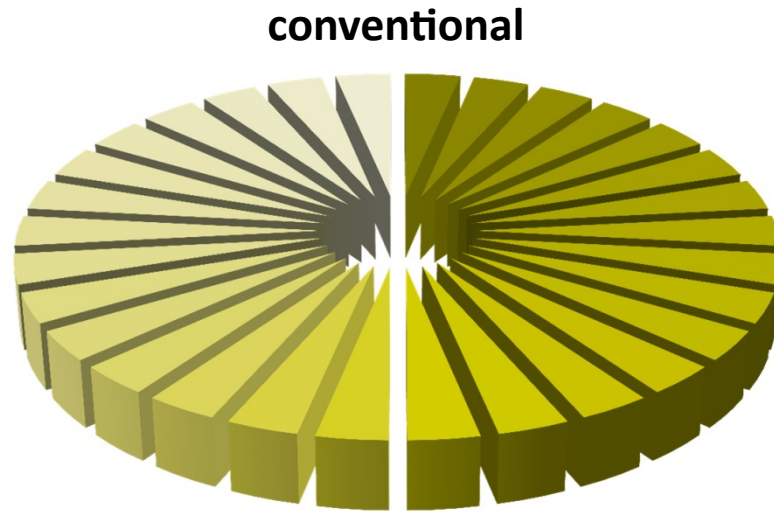
- SABR for St I (&IIA)

- pts medically inoperable or refusing surgery
 - elderly with comorbidities

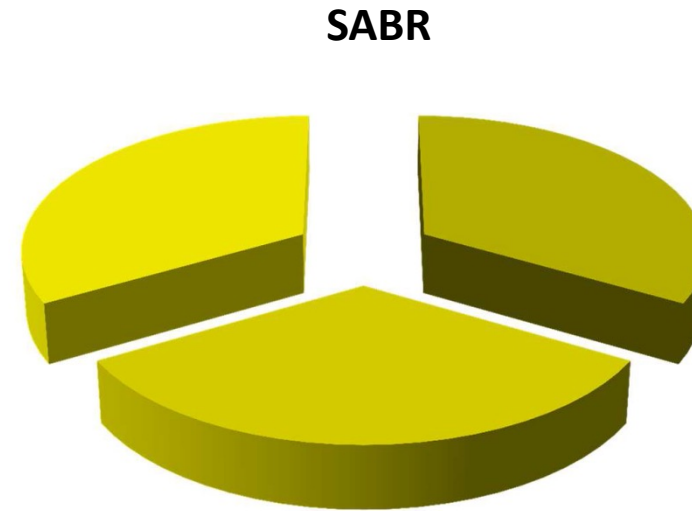
Stereotactic Body Radiation Therapy (SBRT)

- Stereotactic Radiosurgery
very high dose delivered to the tumor in 1 fraction
- Stereotactic Radiotherapy
very high dose delivered to the tumor typically in 1- 6 fractions

BED SABR



30 fx of 2 Gy
BED₁₀=60. [1+2/10]=72 Gy



3 fx of 20 Gy
BED₁₀=60. [1+20/10]=180 Gy

$$BED = Nd \left[1 + \frac{d}{(\alpha / \beta)} \right]$$

“improved local control & survival with SBRT regimens whose BED is >100 Gy”