ATC Committee
On
Credentialing and QA

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Need for Annual TLD

- Validity of Clinical Trials
  - Predominant focus for radiotherapy trials QA is the reduction of patient treatment uncertainty and to reduce the number of deviations
    - Achieved by ensuring accurate dose delivery
      - Imaging
      - Planning
      - Dose delivery
  - Trial result properly reflects the relative efficacy of the treatments being compared without being **obscured by errors** in treatment delivery

Need for Annual TLD

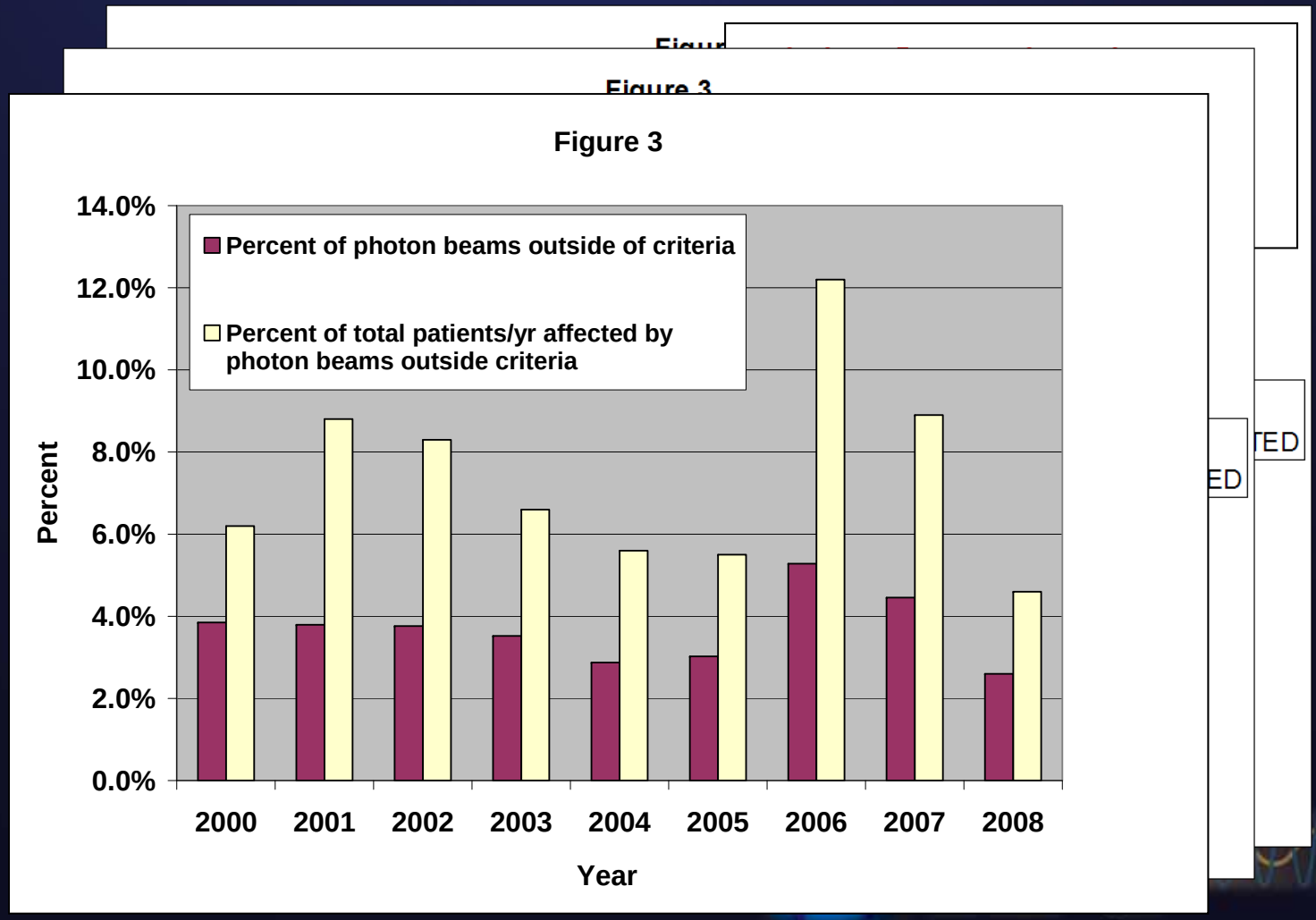
One of the most important contributing factors to errors in beam calibration

Human Error

1. Quality of the physicist (experience)
2. Interpretation of the protocols
3. Different procedures and equipment
4. Linac changes
5. Time constraints

Need for Annual TLD

- Are there errors in beam calibration?



Observations

1. Variation in patient dose delivery reduces the effectiveness of a trial.
2. RPC dosimetry audits (incl. TLD) indicate beam calibration errors occur. (What is significant?)
3. North America and Europe have different procedures, funding sources and philosophies regarding QA.
4. No direct data to support frequency of audit
5. Trials that fail to answer the question are a waste of resources.

Need for Annual TLD (recommendations)

1. The frequency of the reference dosimetry TLD audit should remain annual for participating institutions within the USA and Canada as is currently the practice.

2. International institutions (outside the USA and Canada) wishing to participate in NCI sponsored clinical trials will have all of their photon beam calibrations only be verified using a TLD audit prior to enrolling patients onto the trial. Any new machine put into clinical service at the facility will also have all of its photon beams audited as well. These audits should be performed at a minimal interval of every two years.

Need for Annual TLD (recommendations)

3. The RPC will conduct a study to determine the consequences and impact on clinical trial dosimetry of varying the frequency of the TLD audit.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