## American Association of Physicists in Medicine

**ASTRO**
**Emerging Technology Committee (ETC)**
**Background and Initiatives**

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July 28, 2008

## Topics

**Background**
**Current Activities**
**Coverage with Evidence Development (CED) Initiative**

***Clarify some misunderstanding***

## Mission

Created 10/2005

To provide a proactive resource for all stakeholders: ASTRO members and staff, industry, commercial payers, healthcare organizations, and government, in the application and integration of new and emerging technologies (*and procedures)* into the practice of radiation oncology.

## Organizational Challenges

- **Legal implications**
- **Avoidance of conflict**
- **Maintenance of consistency**
- **Creation of operational structure**
- **Selection of key volunteers**
- **Clear definition of mission**
- **Avoidance of functional overlaps**

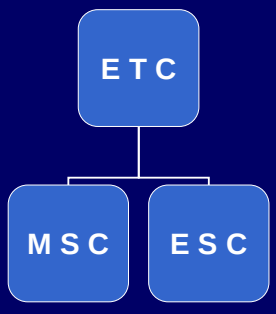
## ETC Development Timeline

- October 2005 — Initial meeting
- June 2006 — Implementation plan
- Nov. 2006 — Comm. convened
- Dec. 2006 — CTAF request
- Jan. 2007 — SC co-chairs named
- Feb. 2007 — CTAF document
- Spring 2007 — Evaluation initiation

## ETC Primary Peril: Mission Creep

- Operational activities
- Policy development
- Code definitions (CPT®)
- Code valuations (RUC)
- Carrier appeals
- Guideline development
- Appropriateness criteria

## Organizational Structure




## ETC Membership (13)

ETC Co-Chairs (2)
MSC Co-Chairs (2)
ESC Co-Chairs (2)
*ASTRO President-Elect*
*ASTRO Council Chairs (4)*
At-Large Members (2)

## Emerging Technology Committee (ETC)

**Co-Chairs: Andre Konski, MD,MBA, Paul Wallner, DO**

- Set Committee policy
- Establish priorities
- Monitor progress
- Assign responsibilities
- Determine appropriate role for external support of activities
- Finalize reports

## Monitoring Subcommittee (MSC)

**Co-Chairs: Michael Herman, PhD, Jeff Michalski, MD**

- Identify and track new and emerging technologies and procedures
- Project impact
- Recommend new evaluation projects
- Consider requests for evaluations

## Evaluation Subcommittee (ESC)

**Co-Chairs: Robert Price, PhD, Eleanor Harris, MD**

- Establish an assessment mechanism(s),
- Establish criteria for investigation and appropriate end-points
- Convene Task Groups (TGs/TGLs) for specific evaluation project
- Prepare initial evaluation reports for ETC review and action
- Prepare manuscripts

## Project Initiation

- Direct ASTRO BOD request
- Council Chair(s) request*
- MSC referral*
- Vendor request*
- Agency/payer request*

*Requires ETC approval

## Projects

- Dose escalation/prostate cancer* √
- Electronic brachytherapy √
- Localization/tracking systems
- Proton beam therapy
- SBRT/ prostate cancer* √
- SBRT/ Non-small cell lung cancer*

* ASTRO Board of Directors or HP Council request

## Standard Reimbursement Nomenclature

The service(s) provided shall be "reasonable and medically necessary"

## Evidence-based Medicine (EBM)

<u>Necessary Components</u>

**Evidence**

**+**

**Judgment**

## Limitations of Regulatory Approval

- Decades old standards
- Low bar standards
- Restrictive legislative mandate
- Lack of reimbursement linkage

## Stakeholders

- Inventors, developers, vendors, investors
- Providers
- Patients, families, caregivers
- Payers
- Policy-makers

## Evaluation Concepts

- Comparative Effectiveness (CE)
- Coverage with Evidence Development (CED)
  - Coverage with appropriateness determinations (CAD)
  - Coverage with study participation (CSP)

## MedPAC Annual Report to Congress
**March 2008**

- Concern that new modalities **disseminate** quickly **without provider knowledge** of whether they outperform existing services
- Create an entity that will **sponsor** comparative effectiveness **research**
- Create **budget neutral RVUs** that would be value-based: >0 only if evidence shows > effectiveness relative to alternatives

## Potential Benefits of CED

Expedite development of evidence to support vendor and provider claims

## CED Background

- **1985 – BC/BSA – "Adequate scientific evidence"**
- **2005 – CMS – Web posting of CED policy draft guidance document**
- **2006 – CMS – Revised guideline document**
- **2006 – Cooksey Report (UK) – "Only in research" programs**

## CED Experiments
**(Successful)**

- **NETT LVRS Trial**
- **CREST Trial**
- **FDG-PET Trial**
- **ICD Trial**

## National Emphysema Treatment Trial (NETT) of Lung Volume Reduction Surgery (LVRS)

- Trial initiation: 1995
- Trial arms: LVRS versus aggressive pulmonary rehab
- Trial funding: CMS/NIH
- Trial Cost: $35M research/$100M clinical
- Patients accrued: 1218 over 7 years
- Impact:
  - 1996: 3000 cases @ $150M/year
  - Post publication (2003): 500 cases

## Additional CED Experiments

- **CREST Trial – Balloon angioplasty + carotid artery stenting versus carotid endarterectomy**
- **Prophylactic Intra-cardiac defibrillator (ICD) Trial for prevention of Sudden Cardiac Death**
- **FDG-PET Trial for evaluation of suspected dementia**

## CED Experiments
**(Failures)**

**A parable of stakeholder interference**

**CT Angiography for diagnosis of coronary artery disease**

**Attack of the: vendors, lobbyists, advocacy groups**

## CED Policy Issues

- **Stable funding mechanisms (public and private)**
- **Legislative, regulatory and legal mandates**
- **Ethical considerations**
- **Apparent focus on cost reduction**

## Potential CED Implications for Radiation Oncology

1. **Early-stage, low-intermediate risk prostate cancer: Protons versus IMRT**
2. **…….?**
3. **…….?**
4. **…….?**

## Future Possibilities

**Be part of the problem?**

**Be part of the solution?**

**Deny that there are problems or solutions and "don't worry, be happy!"**