Coronary CTA: Image Acquisition and Interpretation

- Coronary CTA: Image Acquisition and Interpretation
- Cardiac CTA - Status 2005
- Outward Remodeling (Glagov)
- What does it mean to have
  - "soft" plaque by CTA?
  - 30% x-section area reduction?
- Patient Preparation
- Pre - Medications
- Minimum Cardiac CT configuration
- Radiation Dose Considerations
- Radiation Dose - Cardiac CT
- Increasing mAs for large people &
  lowering mAs for small people
  - Contrast in the Coronaries
  - Scan Timing - Test Bolus
  - Contrast time
  - MDCT = Multiple Slices Configurations
  - Cardiac Gating & CT
  - CT Reconstructions
  - Filtered Back Projection
  - ECG – Prospective (Triggering)
    - Prospective ECG gating - low dose alternative for cardiac imaging
    - Retrospective Gating
      - Cardiac CT -
        Application & Interpretation
        - Typical CTA analysis
        - MPR & Thin Slab MIP
        - Bypass Graft Patent?
        - Occluded SVG next to patent IMA
        - Coronary Anomalies
        - Curved Reformat
        - Thin slab MIP
        - Value of 3D – near isotropic
        - Pulmonary Vein Ablation
        - Atrial Fibrillation
        - Pulmonary Veins
        - Atrial Fibrillation - 82-124 bpm
        - Right Middle Pulmonary Vein
          - Oblique, thin-slab MIP’s key to Pulmonary Vein Anatomy
          - Right Middle Pulmonary Vein
            - Incidental finding on Chest CT
Coronary Arterial Venous Fistula

Curved Reformat - LAD

Physician referred, atypical symptoms

AHA Coronary Segments

LM - Short with plaque
LAD - Long significant plaque

LM & LCx

Left Main - Cross Section
Referred from echo lab

Advanced Cardiac Imaging with Cardiac CT

Cardiac CTA -
Clinical Applications Now
Cardiac CT Unknowns
Conclusions