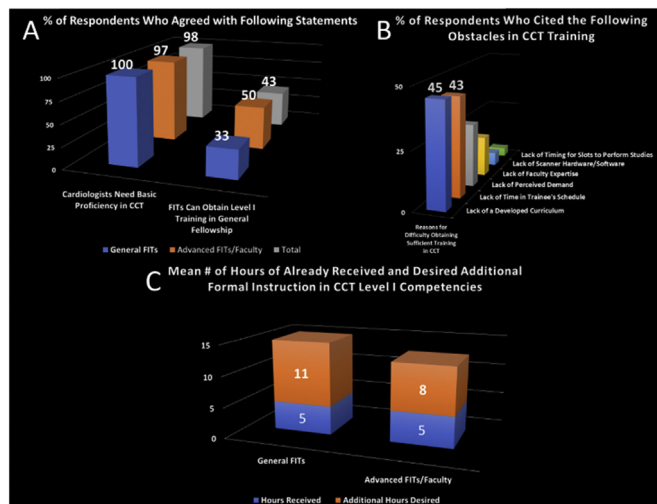


resource limitations, even at large academic centers. Therefore, trainees are encouraged to seek experience in alternative educational offerings that may be non-uniform. Thus, goals of this survey study were to identify gaps and best mechanisms of education to fill these gaps.

**Methods:** Prior to COVID-19 pandemic from December 2019 to February 2020, we developed a questionnaire and invited general fellows-in-training (FITs, currently in 3-year cardiology fellowship) and advanced fellows/faculty (those who had graduated from a cardiology fellowship) at Yale University to participate. We surveyed fellows and faculty in Section of Cardiovascular Medicine regarding their experience in CCT during general fellowship and learning preferences.

**Results:** Fifty-one (91%) of 56 invitees responded (55% FIT and 45% faculty; 37% women). Nearly all (n=50, 98%) respondents agreed that cardiologists should have baseline proficiency in CCT. Despite high-level agreement on training needed in CCT, only 22 (43%) felt general FITs can obtain Level I CCT training during their general fellowship rotations (*Figure Panel A*). Top two reasons for this were **lack of a developed curriculum** and **lack of time in the trainee's schedule** (*Figure Panel B*). Current general FITs reported receiving mean of 5 hours and wished to receive 11 more hours of formal training in CCT competencies; advanced fellows and faculty who had completed general fellowship, many at another institution, also reported receiving mean of 5 hours and wished they had received 8 more hours of training (*Figure Panel C*). Respondents said top ways to learn are **interactive cases, didactic lectures, and via online**.

**Conclusions:** Results of this survey suggest that many cardiologists and graduates of cardiology training programs identify need for additional training in CCT to be offered through cardiology training. Programs should consider the adoption of a more standardized CCT curriculum with content that incorporates learning preferences of interactive cases and didactic lectures on an online website platform.



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#### FEASIBILITY OF SUB-MILLISIEVERT CT SCAN IN QUANTITATIVE THORACIC BONE MINERAL DENSITY ASSESSMENT WITH MULTI-DETECTOR ROW COMPUTERIZED TOMOGRAPHY

S. Mao<sup>2</sup>, D. Li<sup>1</sup>, K. Ahmad<sup>3</sup>, Y. Gao<sup>2</sup>, F. Flores<sup>3</sup>, T. Bever<sup>3</sup>, A. Yoon<sup>3</sup>, T. Bever<sup>3</sup>, R. Chamas<sup>3</sup>, H. Bakhsheshi<sup>3</sup>, M. Budoff<sup>2</sup>. <sup>1</sup> Division of Hospital Medicine, Emory School of Medicine, Atlanta, CA, United States<sup>2</sup> Lundquist, Lakewood, CA, United States<sup>3</sup> Lundquist, Torrance, CA, United States

**Introduction:** Quantitative CT (QCT) bone mineral density (BMD) assessment is an important technique to predict osteoporosis and fragility fracture. High radiation dose with current QCT remains a major challenge. Following the MDCT technology revolution, the radiation dose has been lowered. We aimed to estimate feasibility in measuring vertebral trabecular BMD using a thoracic CT scan with a sub-millisievert (mSv) radiation dose protocol of QCT.

**Methods:** In a single medical institution, 229 subjects were employed who underwent thoracic CT scan referred for lung diseases screening. The chest scans were completed using routine radiation dose (6.4 mSv in average) and following by sub-mSv (0.76 mSv in average) protocol. A filter back projection (FBP) for routine, and both FBP and iterative reconstruction (IR) for low-dose scan was used. The BMD was measured in three thoracic vertebral trabeculae (starting at level of left main coronary going caudally) using the QCT. The comparison was computed between the routine and low-dose scans.

**Results:** A similar BMD value was found between routine and low-dose protocols with QCT. The mean values of BMD are 176.0, 176.4, 175.9 and 175.4 mg/cm<sup>3</sup> for routine BFP, low-dose BFP, low-dose with 50% and 100% IR respectively.

**Conclusions:** We concluded that a sub-millisievert chest CT scan is acceptable to assess thoracic trabecular BMD using QCT.

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#### ABILITY OF ASSESSING OSTEOPOROSIS AND OSTEOPOROTIC VERTEBRAL FRACTURE IN THE GENERAL POPULATION WHEN USING THORACIC QUANTITATIVE COMPUTED TOMOGRAPHY: A COMPARISON STUDY BETWEEN LOW-DOSE THORACIC QUANTITATIVE COMPUTED TOMOGRAPHY AND LUMBAR DUAL-ENERGY X-RAY ABSORPTIOMETRY

S. Mao<sup>2</sup>, D. Li<sup>1</sup>, K. Ahmad<sup>2</sup>, Y. Gao<sup>2</sup>, F. Flores<sup>2</sup>, T. Bever<sup>2</sup>, A. Yoon<sup>2</sup>, H. Hosseini<sup>2</sup>, R. Yang<sup>2</sup>, H. Bakhsheshi<sup>2</sup>, M. Budoff<sup>2</sup>. <sup>1</sup> Division of Hospital Medicine, Emory School of Medicine, Atlanta, GA, United States<sup>2</sup> Lundquist, Torrance, CA, United States

**Introduction:** Thoracic vertebral fracture (VF) and bone mineral density (BMD) can be assessed accurately using thoracic quantitative computed tomography (tQCT). This study aimed to investigate the feasibility of using tQCT to predict the risk of age-related osteoporosis and osteoporotic VF by a comparison study with lumbar dual-X-ray absorptiometry (DXA); and to derive the reasonable age to begin screening BMD and VF in the general population.

**Methods:** A total of 360 patients (46 with VF) who underwent both thoracic QCT (heart and chest, tQCT) and lumbar DXA (IDXA) scans were studied. The BMD of the thoracic and lumbar regions was measured using both tQCT and IDXA. The T scores were calculated using a local published criterion by Budoff MJ et al for tQCT and NHANES II reference values for IDXA. The osteoporosis was assessed using the WHO standard (T score  $\leq -2.5$ ). The comparison between tQCT and IDXA measures in predicting the risk of osteoporosis and VF was completed.

**Results:** In patients >50 years old, the rate of osteoporosis in men and women was 19.8% and 31.3% for tQCT and 4.5% and 10.4% for IDXA. The rate of osteoporosis in male and female VF patients was 58.2% and 36.7% for tQCT and 8.3% and 6.7% for IDXA, respectively.

**Conclusions:** Thoracic QCT BMD from routine chest scan has higher sensitivity to predict the risk of osteoporosis and osteoporotic VF than IDXA.

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#### SEX-SPECIFIC CT CORONARY PLAQUE CHARACTERIZATION AND RISK OF MYOCARDIAL INFARCTION

M. Williams<sup>9</sup>, J. Kwiecinski<sup>6</sup>, M. Doris<sup>9</sup>, P. McElhinney<sup>2</sup>, S. Cadet<sup>2</sup>, P. Adamson<sup>3</sup>, A. Moss<sup>9</sup>, S. Alam<sup>9</sup>, A. Hunter<sup>9</sup>, A. Shah<sup>9</sup>, N. Mills<sup>9</sup>, T. Pawade<sup>9</sup>, C. Wang<sup>9</sup>, J. Weir-McCall<sup>8</sup>, G. Roditi<sup>5</sup>, E. van Beek<sup>9</sup>, L. Shaw<sup>4</sup>, E. Nicol<sup>7</sup>, D. Berman<sup>1</sup>, P. Slomka<sup>2</sup>, D. Newby<sup>9</sup>, M. Dweck<sup>9</sup>, D. Dey<sup>1</sup>. <sup>1</sup> Cedars-Sinai Medical Center, Los Angeles, CA, United States<sup>2</sup> Cedars-Sinai Medical Centre, Los Angeles, CA, United States<sup>3</sup> Christchurch Heart Institute, Christchurch, New Zealand<sup>4</sup> Emory University, Atlanta, GA, United States<sup>5</sup> Glasgow Royal Infirmary, Glasgow, United Kingdom<sup>6</sup> Institute of Cardiology, Warsaw, Poland<sup>7</sup> Royal Brompton Hospital, London, United Kingdom<sup>8</sup> University of Cambridge, Cambridge, United Kingdom<sup>9</sup> University of Edinburgh, Edinburgh, United Kingdom

**Introduction:** Important sex differences exist in coronary artery disease. Women presenting with chest pain have different risk factors, symptoms, prevalence of coronary artery disease and prognosis compared to men. This study aimed to