Acuros® XB commissioning for the Eclipse treatment planning system, and template development of specialized dose reports to analyze volumes defined within the patient's structure set. In total, 90 lung, 18 spine, and two liver SBRT patients were treated from January 2014 to January 2016 using Varian 2300ix model linacs operated in 6MV SRS-mode. EPID reconstructed doses for each fraction were compared to Eclipse TPS AAA and Acuros dose calculations. Low dose (20% isodose) and high dose (planning target volume, PTV) regions were analyzed using gamma (3%/3 mm). "Marginal" (< 90%) and "Suboptimal" (< 88%) pass rates were chosen based on the AAPM TG119 report. CBCTs, EPIDs, and linac output were investigated for all suboptimal fractions.

Results: Improvements up to 8% in PTV γ-pass rates were observed when frame averaging was optimized. Furthermore, average γ-pass rates in the PTV improved from 89 ± 7% (AAA) to 92 ± 5% (Acuros) for 32 lung patients, 71±15% (AAA) to 89±9% (Acuros) for nine spine patients, 90±3% (AAA) to 94 ± 1% (Acuros) for one liver patient. This was expected as Acuros is more accurate than AAA in calculating dose within complex heterogeneous media. Reasons for suboptimal fractions were identified as: 1) changes in patient anatomy with weight loss or gain, rotations, or shifts, or 2) changes in linac output, or errors in EPID image acquisition. Specific suboptimal cases will be presented to illustrate the utility of this in vivo dosimetry technique.

Conclusions: In our study, γ-pass rates were higher using Acuros® XB for comparison and appeared to provide the most benefit in spine SBRT cases. With an increasing trend towards highly complex and high dose radiotherapy, in vivo dosimetry provides treatment verification of planned dose distributions. Furthermore, EPID in vivo dosimetry provides key information to permit adaptive radiotherapy approaches, potentially improving patient outcomes through more accurate dose delivery. Our results also highlight that complex treatments can be sensitive to changes in linac output and differences in patient orientation at the time of treatment with respect to the planning CT.

7
PREFERENCES FOR THE PROVISION OF SMOKING CESSATION EDUCATION AMONG CANCER PATIENTS

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Purpose: Many individuals who use tobacco will continue to smoke after a cancer diagnosis and throughout treatment; however, the extant literature shows that many cancer patients are highly motivated to quit at this time. Continued smoking in cancer patients undergoing various treatments results in decreased treatment efficacy, potentially increased toxicity, reduced survival and increased risk of recurrence/second malignancy. This study aims to better understand cancer patient preferences for learning about smoking cessation.

Methods and Materials: All new patients seen at Princess Margaret Cancer Centre between January 1, 2014 and June 30, 2015 were asked to complete the Combined Tobacco History Survey as part of standard new patient assessments. Details collected from this survey include smoking status, second-hand smoke exposure, years smoked, family support and cessation preferences in terms of education modality. Demographic and tumour details were retrospectively collected from electronic patient records. The proportion of patients that were interested in each educational modality were calculated and difference by age and sex reported. Factors associated with smoking cessation educational preferences in univariate analyses were investigated further using multivariable regression analyses.

Results: 9110 patients completed the survey. Among these there were 1691 smokers (17%). Forty-three percent were female and the median age was 57 years (range 18-95 years). Median years smoked was 30 years (range 0.5-80 years). Smokers included in this analysis were being treated predominantly for head and neck, gastrointestinal, genitourinary, gynecological and lung cancers. Of 1691 smokers, 1238 (73%) were willing to consider quitting and 953 (56%) reported a readiness to quit next month. Patients were most interested in getting smoking cessation education from pamphlets (45%) followed by telephone support (39%), speaking with a healthcare professional (29%), website (15%), support group (11%) and speaking with successful former smokers (9%). According to age tertiles, younger patients (≤ 45 years) preferred receiving smoking cessation education over the telephone (50%; p < 0.001), while older patients (46-65 years and > 65 years) preferred smoking education to be provided in pamphlets (43% and 51% respectively; p = 0.07). In multivariable analyses, older patients were more likely to prefer pamphlets than younger patients OR 1.11 (95% CI: 1.01-1.23; p = 0.03). Sex and cancer site were not predictive of preference of education modality.

Conclusions: Among cancer patients, older patients preferred to receive smoking cessation education through pamphlets and younger patients preferred to learn about smoking cessation over telephone. This highlights the importance of developing a tailored approach to smoking cessation for different cancer patient populations. These data provide an evidence base for future program development in cancer education.

8
INTERVENTIONS TO ADDRESS SEXUAL PROBLEMS IN PEOPLE WITH CANCER

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Purpose: Sexual dysfunction in people with cancer is a significant problem. This guideline aimed to address the following question: "What is the effectiveness of pharmacologic interventions, psychosocial counselling or devices to manage sexual problems after cancer treatment?"

Methods and Materials: This guideline was created with the support of the Program in Evidence-Based Care. We searched for existing systematic reviews, guidelines and relevant primary literature from 2003-2015. Men and women were evaluated separately. No restrictions were made on cancer type or study design. When first approaching the guideline the working group chose to focus on sexual disorders commonly known to arise in people with cancer. These included decreased desire, arousal disorders, pain (in women) and erectile dysfunction (in men). Only studies that evaluated the impact of an intervention on a sexual function outcome were included.

Results: The panel made one overarching recommendation that there be a discussion with the patient, initiated by a member of the health care team, regarding sexual health and dysfunction resulting from the cancer or its treatment. The Expert Panel felt that this is vital since the additional recommendations cannot be used unless someone has taken the initiative to ask. There were numerous limitations of the existing literature. However, we made additional recommendations on 11 outcomes: six for women (sexual response, body image, intimacy/relationships, overall sexual function/satisfaction, vasomotor symptoms, genital symptoms) and five for men (sexual response, genital changes, intimacy/relationships, overall sexual function/satisfaction, vasomotor symptoms). There is a role for medication or devices in particular circumstances. Psychosocial counselling however had the largest evidentiary base for most of the outcomes.

Conclusions: To our knowledge this is the first evidence based guideline to comprehensively evaluate interventions to improve sexual problems in people with cancer. The guideline will be a