with optic neuropathy, four (6%) with cataracts, one (1%) with episcleritis (Grade 1). Late toxicities included seven (10%) and 8% (3-18) at one, two, and three years, respectively. Acute toxicity was not experienced in 49 (85%) patients while five patients had transitory eye dryness (Grade 1) and one patient had episceritis (Grade 1). Late toxicities included seven (10%) with optic neuropathy, four (6%) with cataracts, one (1%) with retinopathy, five (7%) with pigmentary maculopathy, and one (1%) with neovascular glaucoma. No variables were statistically significantly associated with OS.

**Conclusions:** A short fractionation schedule of 20 Gy in 5 fractions is a well-tolerated treatment that effectively preserves vision and gains local tumour control for many patients with choroidal metastases. This approach minimizes time spend in hospital for this palliative patient population and compares favourably to previously reported series for both outcomes and toxicities.

**48 REFERRAL PATTERN AND OUTCOME OF PATIENTS RECEIVING PALLIATIVE RADIOTHERAPY TO SPINAL METASTASES BASED ON THE SPINAL INSTABILITY NEOPLASTIC SCORE**

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**Purpose:** The Spinal Instability Neoplastic Score (SINS) was developed to identify patients requiring assessment by a spine surgeon. Patients are stratified into three groups: score 0-6 (stable spine, no referral), 7-12 (potentially unstable, consider referral), and 13-18 (unstable, referral required). Purposes of study: (1) characterize the scores seen in a consecutive cohort of patients treated with spinal radiotherapy (RT) (2) assess referral patterns to spinal surgery (3) identify whether high SINS was prognostic of worse outcome following palliative RT.

**Methods and Materials:** We retrospectively reviewed consecutive patients receiving palliative spine RT between 2012 and 2013. The SINS was calculated based on CT simulation scan and clinical assessment. Charts were reviewed. Data analyzed using Kaplan-Meier and Cox models. A threshold of seven stratified patients into low- versus high-SINS groups.

**Results:** One hundred and ninety-six patients were included. Patient demographics (median/mean): Age 66 (34-95), ECOG 2 (0-4), Charlson Comorbidity Score 0 (0-4). Follow up was 6.1 (0.1-42.3) months in all patients and 28.5 (0.2-42.3) months in living patients. By time of analysis, 83.7% had died. Median (range) SINS was 7 (1-18). SINS was 0-6, 7-12, and 13-18 in 34%, 59% and 7% of patients. SINS indicated potentially or unstable spine in 84%, 63%, 53%, and 62% of breast, lung, prostate, and other cancer patients. Nineteen patients were referred to spine surgery (13 before and six after RT), with a surgery performed in zero of two patients with SINS 0-6, three of 14 with SINS 7-12, and one of three with SINS 13-18. Stable spine on assessment, intact neurological status, and poor life expectancy were the most common reasons not to pursue surgery amongst surgically referred patients. SINS > 7, age, ECOG > 2, cancer type, solitary vertebral metastasis, control of primary, systemic therapy, and estimated prognosis were not predictive of surgery referral on univariate analysis. Outcomes (median(95%CI)) did not differ between low- versus high-SINS groups. Overall survival was 7.1 months (4.4-9.8, low) versus 6.4 months (2.1-10.5, high), p = 0.262. Time to ECOG ≥ 3 was 17.1 months (5.2-28.9, low) versus 22.0 months (20.8-23.1, high), p = 0.167. Freedom from subsequent intervention (RT or surgery) to the same vertebrae at one year was 81.7 +/- 5.5 (low) versus 79.0% +/- 5.4% (high), p = 0.211. Ambulation at one year was 84.2 +/- 4.7% (low) versus 90.2 +/- 4.0% (high), p = 0.085.

**Conclusions:** Most patients with unstable or potentially unstable spines according to SINS were not referred to a spine surgeon. Higher SINS did not predict for worse survival, functional outcomes, or increased need for subsequent intervention. It is uncertain whether SINS would be predictive of outcomes in a cohort with better performance status. At the time of this study, many physicians were not using SINS to guide referral decisions. Whether and how SINS should be used to select patients for surgery requires further study.