

procedures and anaesthetic interventions in metastatic spinal disease developed using AI systems

Georgios Zilidis¹, Clare Jacobs², Gerard Mawhinney^{3,3}, Jeremy Reynolds⁴, Yaron Berkowitz⁵, Emma Kenney-Herbert⁶, Ather Siddiqi⁷, James Teh⁸, Basavaraj Chari⁸, Martin Gillies⁹, Tim McCormick¹⁰, Ami Sabharwal⁷, Stana Bojanic¹¹, Hayley Jones⁶, Alex Anderson¹², Claire Worrall¹², Niamh Louwman¹², Harriet Dent¹², Mariam Latif¹⁰, Tomasz Bajorek¹³, Victoria Bradley¹², Nicolas Beresford-Cleary¹

¹Oxford University Hospitals, Oxford Spinal Surgery Unit, OxMINT, Oxford, United Kingdom,

²Oxford University Hospitals, Department of Clinical Oncology, Churchill Hospital, OxMINT, Oxford, United Kingdom,

³Oxford University Hospitals, Oxford Spinal Surgery Unit, Nuffield Department of Clinical Neurosciences, University of Oxford, Oxford, United Kingdom,

⁴Oxford University Hospitals, Oxford Spinal Surgery Unit, Oxford, United Kingdom,

⁵Oxford University Hospitals, Department of Musculoskeletal Radiology, Experimental Medicine Division, Nuffield Department of Experimental Medicine, University of Oxford, Oxford, United Kingdom,

⁶Oxford University Hospitals, Department of Clinical Oncology, Churchill Hospital, Oxford, United Kingdom,

⁷Oxford University Hospitals, Orthopaedic Oncology and Arthroplasty, Oxford, United Kingdom,

⁸Oxford University Hospitals, Department of Musculoskeletal Radiology, Oxford, United Kingdom,

⁹University of Oxford, Neurosurgery, Oxford, United Kingdom,

¹⁰Oxford University Hospitals, Department of Anaesthesiology, Oxford, United Kingdom,

¹¹Oxford University Hospitals, Neurosurgery, Oxford, United Kingdom,

¹²Oxford University Hospitals, Department of Palliative Medicine, Oxford, United Kingdom,

¹³Oxford University Hospitals, Department of Psychiatry, Oxford, United Kingdom

ID: I452

P696: The OxMINT score. A novel scoring system to guide clinicians on the choice of intervention between best supportive care, spinal surgery, interventional radiological

Introduction: Metastatic or secondary bone tumours are known to be associated with skeletal-related events, such as pathological fractures, spinal cord compression, or hypercalcemia. These deposits are often highly painful and cause significant functional impairment and harm to quality of life. We would estimate based on rising prevalence of cancer in the UK predicted to reach 3.5million in 2025, the number of patients living with bone metastases will reach epidemic proportions. There are a growing number of treatment options available to patients many of whom have variable physiological frailty due to their advanced malignancy. Clinical decision making around the best intervention across the spectrum of possibilities from major surgery, radiological, neuromodulatory or anaesthetic procedures to supportive pharmacotherapy is

extremely challenging and current scores to guide this are specialty specific and thus lack the breadth of approach necessary to guide intervention in a landscape with many options. **Methods:** We will describe a feasibility study looking at traditional medical statistics and machine learning and artificial intelligence to develop and test a clinical decision aid to support patient choice around appropriate levels of intervention. Our longer term aim is to bring together traditional single specialty scoring systems like the Spinal instability neoplastic score the Tokuhashi Scoring System, Eastern Cooperative Oncology Group, Karnofsky Performance Scale and imaging data to create a comprehensive decision-making framework with the support of collaborating and data sharing organisations in both Europe and North America. **Results:** We hope to present a first draft decision guide which would support informed joint decision making with patients without additional burden to patient or clinician. **Conclusion:** Clinical decision making in any setting is challenging but in a multi-specialty environment with frail and co-morbid patients with finite prognosis the stakes are higher than ever. We aim to present the results of a feasibility study into how we might develop a clinical decision guide to support patients and clinicians in this setting.