One Third of Plastic and Surgical Patients Have Limited Health Literacy: A Systematic Review and Meta-Analysis

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INTRODUCTION: Health literacy has been defined as the extent to which patients are able to understand and act upon health information. Limited or inadequate health literacy has been shown to have a negative impact on patient satisfaction, clinical outcomes, and risk of hospitalization. This complex concept is of high importance for surgeons as their patients have to comprehend the nature, risks and benefits of surgical procedures, adhere to strict perioperative rules, and make complex care decisions about interventions or lack thereof. The aim of this review was to evaluate the prevalence of reported inadequate health literacy levels and the measurement tools used in the plastic and surgical patient populations.

METHODS: A systematic review and meta-analysis was conducted according to the Cochrane guidelines. Relevant studies reporting health literacy measurements in surgical patient populations were identified from MEDLINE and Embase published from inception until January 14th 2017. Two-stage screening and data extraction were performed by two independent reviewers. Data on study design, sample size, patient population, health literacy measurement tool, and prevalence of inadequate health literacy were extracted and analyzed.

RESULTS: A total of 934 abstracts were screened, 103 articles were reviewed and 57 met inclusion criteria. Five randomized controlled trials, 8 prospective cohorts, 36 cross-sectional studies were included including only 11 (19.0%) studies published before 2010. 18,894 surgical patients were included in these studies and the prevalence of inadequate health literacy was 32.8% (range 2.8–80.7%, 95%CI: 25.9–40.1). Fifteen (26.3%) studies did not present health literacy measurement results. Numerous health literacy measurement tools were used (16 validated, 6 non-validated). Only five studies pertained to the hand surgery and one to the plastic surgery literature.

CONCLUSION: Our review demonstrates a high prevalence of limited health literacy within the plastic and overall surgical patient populations. While there is considerable variation in measurement tools currently being used, our review suggests a great need for patient-education and decision-aid tools for surgical patients with limited health literacy.

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INTRODUCTION: Resection of spinal tumors often requires reconstruction with bone grafting and hardware fixation to correct iatrogenic and pathological instability. Currently, gold standard spinal reconstruction utilizes hardware and non-vascularized bone grafting. Using this method, literature shows delayed healing environments are associated with instability, pseudoarthrosis, and failure. Thus, in certain patients alternatives like vascularized bone grafting (VBG) merit consideration. This study presents VBG as a superior reconstructive method in patients with complex spinal defects.

METHODS: Retrospective chart review identified four patients who underwent spinal reconstruction with vascularized bone from 2008–2016. Demographics, treatment, and outcomes were analyzed.

RESULTS: Spinal fusion with non-VBG has a significant failure rate – in cases of primary fusion, 25.8% of grafts fail within 3 years.1 The prognosis in the sacral region is particularly poor with a 37% revision rate.2 Additionally, achieving arthrodesis with non-VBG is known to be complicated by pre-operative radiation.3 Literature reveals high rates of successful union (96–100%) when VBG is employed in the spine in lieu of non-VBG.4,5 The case series included two male and two female patients with lumbar or sacral tumors. Average age was 40.25 years, and 3/4 patients had previous chemo and/or radiation. One patient underwent an S1-3 resection and hemipelvectomy with immediate vascularized free fibula (VFF) reconstruction. Post-operative complications included infection, non-healing wounds, and hardware exposure. Two other patients were reconstructed with VFF grafts after construct failure – one patient had rod fracturing following L3-5 resection while another had pseudoarthrosis and infection after S1-sacroiliac joint resection. A final patient underwent immediate reconstruction with a vascularized femur-fibula following L2-S1 resection and hemipelvectomy. Length of stay was 47–87 days and follow-up was 12–98 weeks at which point all were weight-bearing.

CONCLUSION: Spinal reconstruction after tumor resection remains challenging and in cases involving infection, radiation, or previous construct failure, poor outcomes may result from lack of graft consolidation and hardware failure. Ultimately, literature shows VBG lends structural support to fusion sites and is an effective alternative to non-VBG in compromised tissue beds. Stronger spinal arthrodesis in turn, reduces reoperation risk and hardware dependence, and may allow for hardware removal. We have also illustrated the application of spare parts surgery using a vascularized femur-fibula. Overall, our experience supports using VBG in constructing spinal fusions, particularly in higher risk patients.

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An Expertise-Based Prospective Feasibility Study Comparing Trapeziectomy with Ligament Reconstruction and Tendon Interposition (T+LRTI) Versus Partial Trapeziectomy and Tendon Interposition Arthroplasty (PT) in Patients with Basal Thumb Joint Arthritis

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