Malnutrition Clinical Summary Overview

CITATION	STUDY OVERVIEW	CONCLUSION	Increased Readmission	Increased Complications	Increased Cost of Care	Increased LOS
Allard JP, et al. Malnutrition at hospital admission — contributors and effect on length of stay: a prospective cohort study from the Canadian Malnutrition Task Force. *JPEN J Parenteral Enteral Nutr.* 2015. doi:10.1177/0148607114567902.	The study determined the contributors to malnutrition at admission and evaluated its effect on LOS. A prospective cohort study in 18 Canadian hospitals in patients ≥18 years admitted for ≥2 days.	1015 patients were enrolled. 45% were malnourished (based on SGA), and 32% were obese (based on BMI). Independent contributors to malnutrition at admission were Charlson comorbidity index >2, having 3 diagnostic categories, relying on adult children for grocery shopping, and living alone. The median (range) LOS was 6 days. Malnutrition at admission was independently associated with prolonged LOS (hazard ratio, 0.73; 95% CI, 0.62–0.86).				✓
Corkins MR, et al. Malnutrition diagnoses in hospitalized patients: United States, 2010. *JPEN J Parenter Enteral Nutr.* 2014;38:186-195.	The objective of this study was to define the prevalence of malnutrition among patients discharged from US hospitals and compare these patients with those without a malnutrition diagnosis. Data were examined from 2010 Healthcare Cost and Utilization Project (HCUP), the most recent nationally representative data describing US hospital discharges (1,051 hospitals; 45 states; 20% of US hospitals).	3.2% of all US hospital discharges in 2010 had a malnutrition diagnosis. Malnourished patients had a significantly longer LOS (12.6±.5 vs 4.4±.1 days, $P<0.0001$) and higher costs ($26,944 vs $9,485, $P<0.0001$).			✓	✓
Boaz M. Malnutrition risk in newly hospitalized obese individuals: Mr NOI. *J Obes Wt Loss Ther.* 2012;9:159.	This study was designed to estimate malnutrition prevalence and characterize its manifestations among newly hospitalized overweight and obese patients. Cross-sectional survey of adults newly admitted to internal medicine and surgical departments were screened for malnutrition risk using the NRS 2002. 431 overweight and obese patients were compared by nutritional status and outcomes.	56% (n=243) of patients patients were identified as being overweight or obese. Of these patients, 23.9% were identified as malnourished. Compared to adequately nourished subjects, malnourished overweight/obese patients had significantly longer hospital stay 11.7±18.9 (median 5, 1-123 days) vs 5.3±6.7 (median 4, 0-65 days), ($P=0.001$) and in-hospital mortality risk in both overweight/obese and normal-weight patients.				✓
Lim SL, et al. Malnutrition and its impact on cost of hospitalization, length of stay, readmission and 3-year mortality. *Clin Nutr.* 2012;31:345-350.	The aim of this study was to determine malnutrition prevalence and its impact on hospital outcomes and costs, controlling for diagnosis-related group (DRG). This prospective cohort study included matched case controls. Subjective Global Assessment (SGA) was used to assess nutritional status and its effect on hospital outcomes in 818 adults over 3 years.	Malnutrition prevalence was 29%. Malnourished patients had longer hospital stays (6.9±7.3 days vs 4.6±5.6 days, $P<0.001$) and were more likely to be readmitted within 15 days ($P=0.025$). Within a DRG, the mean difference between actual cost of hospitalization and the average DRG cost for malnourished patients was greater than well-nourished patients ($P=0.014$).	✓		✓	✓
Allaudeen N, et al. Redefining readmission risk factors for general medicine patients. *J Hosp Med.* 2011;6:54-60.	The objective of this study was to identify factors associated with readmission within 30 days for general medical patients. By the end of the 2-year research period, the researchers had gathered data on 6,805 patients and 10,359 admissions.	Among the clinical factors studied, 2 that are related to malnutrition increased the odds of readmission: weight loss (OR 1.26) and iron deficiency anemia (OR 1.27).	✓			

Abbott

Clinical Summary Overview

CITATION	STUDY OVERVIEW	CONCLUSION	Increased Readmission	Increased Complications	Increased Cost of Care	Increased LOS
Vivanti A, et al. Nutritional status and assocation with falls, balance, mobility, and functionality during hospital admission. *J Nutr Health Aging.* 2011;15:388-397.	This study examined associations between nutritional status and selected falls risk among older hospital patients. Over a 6-month period, this observational, longitudinal cohort study enrolled 194 inpatients and examined the association among nutritional status, mobility, functional status, LOS, and falls during subacute care in a hospital geriatric unit.	Malnutrition was associated with reduced mobility ($P<0.05$). The prevalence of malnutrition was 39% of the sample, with odds of falling during admission being 1.49 ($P<0.20$). Those who fell had greater LOS than non-fallers.		✓ (reduced mobility)		
Fry DE, et al. Patient characteristics and the occurrence of never events. *Arch Surg.* 2010;145:148-151.	The objective of this study was to determine whether the occurrence of "never events" after major surgical procedures is affected by patient and disease characteristics and by the type of operation performed. Using the Healthcare Costs and Utilization Project (HCUP) Nationwide Inpatient Sample, researchers examined claims data from nearly 900,000 adult patients aged 18 and older undergoing coronary artery bypass grafting (CABG), total hip replacement, abdominal hysterectomy, and aortofemoral bypass.	Pre-existing malnutrition/weight loss increased the odds of developing multiple never events, including pressure ulcers (OR=3.8), surgical site infections (OR=2.5), and mediatinitis (OR=5.3).		✓		
Cawthon PM, et al. Do muscle mass, muscle density, strength, and physical function similarly influence risk of hospitalization in older adults? *J Am Geriatr Soc.* 2009;57:1411-1419.	A prospective cohort study that examines the association among strength, function, lean mass, muscle density, and risk of hospitalization in adults aged 70 to 80 (N=53,011).	During an average 4.7 years of follow-up, 1,678 (55.7%) participants experienced one or more hospitalizations. Participants in the lowest quartile of muscle density were more likely to be subsequently hospitalized (multivariate IRR 51.47, 95% confidence interval 1.24–1.73) than those in the highest quartile.	✓			
Giron R, et al. Nutritional state during COPD exacerbation: clinical and prognostic implications. *Ann Nutr Metab.* 2009;54:52-58.	The objectives of this study were to determine the prevalence of malnutrition among patients with moderate to severe COPD who were hospitalized with exacerbation of their disease and to evaluate the clinical and prognostic influence of malnutrition on the exacerbation. This study includes 78 patients with moderate to severe COPD who were admitted to the hospital with a diagnosis of exacerbation.	38% of patients were malnourished. Number of days of hospitalization was reduced when correlated with a higher value of fat-free mass (FFM), muscle mass (MM), BMI, and albumin levels. The higher value of FFM and MM also correlated with several measures of better lung function, less readmissions, and shorter LOS. Those patients who were readmitted had lower FFM (45.0 ± 6.3kg vs 49.35 ± 8.2kg) and muscle mass (25.9 ± 6.9kg vs 30.4 ± 6.9kg) ($P<0.05$).	✓			✓
Schneider SM, et al. Malnutrition is an independent factor associated with nosocomial infections. *Br J Nutr.* 2004;92:105-111.	A prospective study to determine if malnutrition is an independent risk factor for nosocomial infections. The study surveyed the prevalence of NIs among 1637 in-patients.	427 patients (67.8%) were malnourished. Total nosocomial infection prevalence was 8.7%: 4.4% in nonmalnourished patients, 7.6% in moderately malnourished patients, and 14.6% in severely malnourished patients ($P=0.009$).		✓ (infections)		
Friedmann JM, et al. Predicting early nonelective hospital readmission in nutritionally compromised older adults. *Am J Clin Nutr.* 1997;65:1714-1720.	This study determined specific predictors of early nonelective hospital readmission among 92 nutritionally compromised Medicare patients.	Patients with any amount of weight loss during the 1st month after hospitalization were at a much higher risk of readmission than those who maintained or increased their weight. Change in weight from discharge to 1 month post-discharge predicted readmission with 90% accuracy.	✓			

Abbott