of underweight (7/9 (78%), healthy (28/46 (61%)), overweight (14/23 (61%)) and obese (6/12 (50%)) p=0.642). Patients with >5% weight loss (13/101 (13%)) or suboptimal HGS (56/101 (55%)) were significantly more likely to be at nutrition risk using IBD-NST, MUST and SGA. Patients with suboptimal MAMC (10/66 (15%)) were not significantly more likely to be at nutrition risk using IBD-NST or MUST.

Conclusion
The IBD-NST identifies more patients with high nutrition risk and places less importance on BMI than SGA or MUST. Finally, we confirm that BMI is a poor indicator of HGS in IBD supporting a reduced importance in identifying nutrition risk. Further work is underway to test the repeat-reliability the IBD-NST.

### PTH-137 PHOSPHATE STUDIES: IMPORTANT CHANGES IN PHOSPHATE HOMEOSTASIS AND BONE METABOLISM AFTER IV IRON

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Introduction
Iron deficiency anaemia (IDA) is the most common extraintestinal complication of inflammatory bowel disease (IBD), and IV iron is commonly used to treat IDA in IBD. Of the two commonly used IV iron preparations, ferric carboxymaltose (FCM) and iron isomaltoside IIM, there is evidence that FCM can cause hypophosphatemia due to FGF23 mediated renal phosphate wasting, which has been associated with osteomalacia; the comparative effects of IIM are unknown.

Methods
In two identical, open-label trials, 245 adults with IDA randomly received (1:1) IIM (1×1000 mg) or FCM (2×750 mg; 1 week apart). We compared the incidence, severity and duration of hypophosphatemias, and effects on fractional phosphate urinary excretion (FEPO4), FGF23, parathyroid hormone (PTH), vitamin D (VitD), and bone turnover biomarkers in blood and urine.

Results
In a pooled analysis, the incidence of hypophosphataemia <2 mg/dL was markedly higher in the FCM vs. IIM group (74.4% vs. 8.0%, p<0.0001). Hypophosphatemia persisted at day 35 in 43.0% of FCM-treated patients compared to 0.9% of IIM-treated patients (p<0.0001). Severe hypophosphatemia ≤1 mg/dL occurred in 11.3% of FCM patients compared to 0.0% of IIM-treated patients (p<0.0001). FCM infusion significantly increased intact FGF23 compared to IIM (p<0.0001); FGF23 after FCM rose from 49.9 pg/mL to 327.9 pg/ml by day 8. The corresponding figures for IIM were 59.9 pg/mL at baseline, 58.3 pg/mL by day 1 and 66.9 pg/mL by day 8. Compared to treatment with IIM, FCM significantly: increased FEPO4; decreased serum 1,25-(OH)2 vitD; decreased ionized calcium; and increased PTH, which persisted through day 35. Post-FCM changes were accompanied by significant increases in total and bone specific alkaline phosphatase that persisted through day 35. Correction of IDA was comparable between the two treatments. Significantly fewer adverse drug reactions occurred with IIM than with FCM. Serious or severe hypersensitivity reactions occurred in 0.8% in the IIM group and 1.7% in the FCM group.

Conclusion
Compared to IIM, FCM-induced high rates of FGF23-mediated hypophosphatemia, which was frequently
severe and often persisted for >35 days. FCM, but not IIM, induced changes in vitD and calcium homeostasis that triggered secondary hyperparathyroidism, which likely contributed to persistence of hypophosphatemia. Alteration of bone metabolism after FCM administration may be of great clinical significance particularly for IBD patients who often have low vit D and regularly receive iv iron.

**Abstract PTH138**

**COLORECTAL CANCER, COLECTOMY AND INFLAMMATORY BOWEL DISEASE ACTIVITY FOLLOWING LIVER TRANSPLANTATION IN PRIMARY SCLEROSING CHOLANGITIS**

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**Introduction**

Primary sclerosing cholangitis (PSC) is the classical hepatobiliary manifestation of inflammatory bowel disease (IBD) for which liver transplantation (LT) is the only curative therapy. In this study, we provide pooled incidence rates (IR) and time trends of (1) colorectal cancer (CRC), (2) flares in IBD activity and (3) colectomy rates post LT, through systematic review and meta-analysis.

**Methods**

A systematic literature search of Medline and Embase was undertaken to identify pertinent studies from 1981 to 2014. Included studies were assigned to one or more of the three analytical streams. The ‘meta’ package (R Studio (V.1.1.463)) and Revman was used to pool IRs and HRs from individual studies using a random effects model respectively.

**Results**

42 studies qualified for inclusion in the systematic review. 20 studies detailing the clinical course of 1994 patients (cumulative 9874 patient years (PY)) were pooled to assess the occurrence of dysplasia or CRC (combined endpoint) and CRC only; yielding an IR of 14.97 (95% CI 9.74–23.02) and 9.21 (95% CI 6.01–14.09) per 1000 PY, respectively. Heterogeneity was considerable (I² = 86%).

The incidence of post LT CRC was seen to be decreasing over the past decade (figure 1A). The estimated colectomy rate following OLT was IR 23.18 (95% CI 11.64–34.72 per 1000 PY), IR for colectomy due to dysplasia/CRC was 11.25 per 1000 PY (95% CI 6.43–19.68) and decreasing over time (figure 1B). By contrast, deterioration in IBD activity necessitating colectomy was noted for IR 13.26 per 1000 PY (95% CI 9.95–17.66), with no change in the incidence rate over study duration (figure 1C).

**Conclusion**

The heightened risk of CRC mandates ongoing colonoscopic surveillance in the PSC/IBD LT population, although the incidence appears to be decreasing. Identification of risk predictors impacting the course of IBD is of critical importance, given that deterioration in activity appears to be the principal indication for colectomy post LT.