

Keeping the home in homeostasis; saving bed days through an outpatient blood monitoring and intravenous day case fluid and electrolyte replacement service.

Dehydration and electrolyte imbalance owing to high output ileostomy or malabsorption frequently requires intravenous (IV) replacement therapy to maintain health (1).

The nutrition support team (NST) at Gloucestershire Hospitals NHSFT was fully established in September 2015. The team comprises 1 consultant gastroenterologist, 1 consultant chemical pathologist, 2 dietitians, 2 pharmacists, 1 specialist nurse. The team cover two district general hospitals; Cheltenham General and Gloucester Royal.

The NST identify patients with high stoma output who are at risk of dehydration following discharge subsequent readmission with an acute kidney injury (AKI). The NST provide an outpatient blood monitoring and day case IV fluid and electrolyte replacement service. Patients may be known to the NST from their acute inpatient stay and may have required input from the NST for provision of parenteral nutrition (PN) or for high output stoma management. Referrals are also received from specialist stoma nurses and occasionally through GPs. Blood test results are monitored by the NST specialist nurse who also arranges attendance for day case IV fluids & electrolytes and prescribes the required IV replacement therapy.

Face-to-face patient follow up is in the NST clinic or during attendance for IV fluids. Where possible other interventions will be made to control stoma output and promote hydration orally. The multidisciplinary NST meetings review patient progress and guide ongoing management. Remote telephone clinics enhance the service.

Results

Table 1. Cohort details

| | Jul-Dec 2015 | Jan-Dec 2016 |
|------------------------------------|---------------------|---------------------|
| Patient cohort | 9 | 35 |
| Ileostomy patients | 7 | 24 |
| Requiring IV infusion (IVI) | 7 | 17 |
| Total IVI attendances | 28 | 154 |
| Including IV magnesium | 3 | 30 |

Table 2. Bed day savings

| | Jul-Dec 2015 | Jan-Dec 2016 |
|---|---------------------|---------------------|
| Estimated bed-days saved avoiding 5 day re-admission with AKI/6 months | 45 | 350 |
| Estimated bed days avoiding 2 day inpatient stay for IV | 6 | 60 |

| | | |
|--|---|---|
| magnesium | | |
| Actual bed days saved by avoiding extended length of stay | 98 (based on 1 patient discharged with previous extensive inpatient stay) | 799 (based on 2 patients bridge to continuity surgery,1 previous long inpatient stay) |
| Bed days saved | 149 | 1209 |

Bed day savings avoiding re admission with AKI have been estimated. Bed day savings for patients avoiding an extended length of stay are actual savings. Figures in table 2 show that intensive monitoring and outpatient intervention of a small cohort of carefully selected patients has delivered significant bed day savings. These patients would otherwise have an extended inpatient stay for frequent regular IV fluids to maintain hydration pending timely surgery to restore bowel continuity.

Feedback from patients to date has been positive with many expressing appreciation of the close monitoring and regular phone and face-to-face contact they receive. Whilst many acknowledge they would rather not have to attend for IV fluids, they understand the requirement to do so to maintain kidney health.

In conclusion, the NST blood monitoring and electrolyte replacement service saves bed days. It reduces readmission with AKI and allows patients awaiting surgery to spend time at home and avoid a lengthy inpatient stay. The multidisciplinary MDT delivers comprehensive management of a complex patient group. Independent and supplementary nurse prescribing enhances the efficiency of the service.

References:

1. Pironi L, *et al* (2016) ESPEN guidelines on chronic intestinal failure in adults, *Clinical Nutrition* 35, 247-307