

Improving the peri-operative pathway of people with diabetes undergoing elective surgery: the IP3D project

Ipswich Hospital, East Suffolk and North Essex NHS Foundation Trust, Ipswich, United Kingdom

KEY PARTNERS / STAKEHOLDERS

Gerry Rayman | Alison Czarnota | Emma Page | Rachel Allen | Ruth Deroy

The perioperative pathway is a multi-step process which can be particularly challenging to people with diabetes, with many experiencing anxiety and dissatisfaction with their care. Furthermore, people with diabetes experience higher rates of perioperative mortality, suffer more postoperative complications, have a longer length of stay and increased readmission rates. Despite numerous guidelines, there has been little improvement in the perioperative care of people with diabetes (National Confidential Enquiry into Patient Outcomes and Death 'Highs and Lows' report 2018).

In order to improve the care of patients undergoing elective surgery, we introduced the 'Improving the Perioperative Pathway of People with Diabetes' project (IP3D) which included use of a handheld 'diabetes perioperative passport' to empower patients throughout their journey, formation of a diabetes-surgery working group, recruitment of surgical diabetes champions and the roll-out of surgical diabetes study days. A crucial aspect was the recruitment of a Perioperative Diabetes Specialist Nurse (DSN) whose role included engaging and educating others involved in the pathway and supporting patients with their diabetes care pre-surgery and on admission.

In order to assess whether outcomes for patients improved, prior to implementation of IP3D, a baseline audit of 185 patients listed for elective surgery (July-Dec2017) was undertaken, followed by audit of 166 patients listed for surgery during the implementation (July-Dec2018). Staff knowledge and patient experience were measured via questionnaires. Following implementation, availability of a recent HbA1c result increased from 63% to 92%, suggesting that diabetes and insights from HbA1c were larger considerations when planning surgery. Additionally, mean HbA1c of those seen for optimizations by the Perioperative DSN significantly decreased (9.8% v 7.8%; $p \leq 0.001$). A decrease in recurrent hypoglycaemia decreased (7.0 v 0.6%; $p = 0.002$) was also noted, alongside an almost 2.0-fold reduction in the mean number of hyperglycaemic events (3.0 v 1.7; $p = 0.007$). Mean length of stay for patients with diabetes also significantly decreased from 4.8 to 3.3 days ($p = 0.001$) and crucially, 30-day readmissions did not increase (12 v 9%; $p = 0.067$). Finally, post-op complications significantly decreased for diabetic patients (28 vs 16%; $p = 0.008$). The substantial improvements to patient care correspond with a significant increase in staff knowledge and confidence in diabetes management as well as excellent patient feedback.

Successful implementation and patient-centric outcomes of the IP3D pathway improved important perioperative outcomes for those with diabetes undergoing elective surgery. Initially charity funded, the evidence and potential cost savings led to full Trust funding. Subsequently, IP3D has been successfully introduced into 10 UK hospitals with similar benefits.

