Nursing Practice

Innovation

Nutrition and hydration

A project aiming to reduce pre-operative starving times resulted in a dramatic fall in the number of patients starved for prolonged periods before undergoing surgery

Improving hydration in pre-operative patients

In this article...

- The challenge of reducing pre-operative starving time
- Outcomes of a project to reduce starving time
- Role of the project nurse in changing practice

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Abstract
Davies D (2016) Improving hydration in pre-operative patients. Nursing Times; 112: 36/37, 14-16.

Pre-operative fasting aims to reduce the risk of adverse events during general anaesthesia, but evidence suggests prolonged fasting results in negative outcomes. Despite guidance recommending that in most cases patients can drink up to two hours before their operation, the practice of fasting from midnight before surgery persists. This article reports on an innovative project that introduced new ways of working to minimise the fasting time of pre-operative patients.

Excessive fasting of pre-operative patients is not a new problem and, as Evan and Best (2015) suggest, little improvement has been made in meeting patients’ nutrition and hydration needs over recent years. Sadly, projects aimed at reducing pre-operative starving have rarely resulted in long-term improvement for patients (Bothamley and Mardell, 2005).

Implementing the evidence around pre-operative fasting and hydration had become a key concern for medical and nursing staff at my trust, a large acute trust employing 14,000 staff over three sites. Over the two main sites (Queen’s Medical Centre and City Hospital) there are 52 operating theatres and 80 wards, and approximately 52,000 operations are performed each year. Implementing a trust-wide change to improve the quality of care presented a huge challenge.

Patient feedback and an audit performed at the trust in November 2013 raised awareness of excessive pre-operative fasting times. The audit of 27 patients carried out in pre-operative anaesthetic rooms revealed dissatisfaction with long periods of fasting prior to surgery (Table 1) and was used as baseline data for the Think Drink Project. A prospective analysis of fasting times for solids and liquids revealed an average pre-operative fasting time of nine hours compared with trust guidelines, which recommend only two hours. Although the audit sample size was small, the results were supported by findings from other studies on pre-operative fasting (Falconer et al, 2014).

In response to the evidence, a multidisciplinary patient safety project group was established, which included representatives from dietetics, anaesthesia and pre-operative assessment. The purpose was to minimise the fasting time for pre-operative patients.

Patient information leaflets should reflect current guidance

FIG 1. THINK DRINK MOMENT LOGO

5 key points

1. In most cases, patients can drink up to two hours before their operation unless there are contraindications

2. National and local pre-operative fasting guidance are difficult to implement

3. Improved decision making by the theatre team and effective communication is essential in reducing fasting times

4. Teamwork is vital in maintaining adequate hydration in patients waiting for operations

5. Patient information leaflets should reflect current guidance

Engagement with the project

Addressing the issue of pre-operative fasting was – and still is – complex; there are multiple barriers to implementing pre-operative fasting guidance (Crenshaw, 2011). Initially, we gained support from senior nursing managers to fund a 12-month secondment for a nurse project lead. Investing time and leadership for any project is crucial in embedding and sustaining a culture change. The role was
TABLE 1  AUDIT QUESTIONS AND RESULTS

<table>
<thead>
<tr>
<th>Key questions</th>
<th>Fasting time (hours)</th>
<th>Solids</th>
<th>Liquids</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date and time of last drink?</td>
<td>Mean fasting time</td>
<td>15.5</td>
<td>9</td>
</tr>
<tr>
<td>IV fluid running?</td>
<td>Median fasting time</td>
<td>15.6</td>
<td>8.4</td>
</tr>
<tr>
<td>Has case been postponed for &gt;24 hours?</td>
<td>Trust fasting guideline</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>Any other reason for nil by mouth?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The audit indicated that lower priority patients on the theatre list were often cancelled very late in the evening and then fasted again from midnight.

Audit conducted by Arani Pillai

essential in supporting theatre teams and nutritional link professionals to implement the initiative in clinical areas, collating data and producing reports, investigating real-time issues, and in promoting the project locally and nationally.

We developed a project logo ‘Think Drink’ (Fig 1) to give the project a unique identity that was instantly recognisable and conveyed a distinct message. The logo is used on all written communication, and we gained funding for stickers and badges to increase awareness. It has now become a familiar design around the trust and fed back from staff confirms they are aware of the message it conveys.

A computer program, was adapted to collect real-time patient-fasting data. This allowed reports to be generated monthly and distributed trust wide, providing evidence of the project’s impact. The real-time information also proved useful in challenging excessive waits on the day of surgery.

Bothamley and Mardell (2005) identified a lack of engagement by surgeons and anaesthetists in pre-operative fasting projects because of concerns over loss of flexibility in operating lists. During this project, there was no evidence that operating lists were adversely affected by the decision to provide drinks for patients waiting for operations. The influence and support of the senior anaesthetic consultant who wrote the trust’s eating and drinking guidance and the author of the original audit performed in the trust proved valuable in gaining support among their medical colleagues. Although small pockets of resistance were identified, they became fewer once the project became more established and awareness improved.

Planning stage

The trust’s eating and drinking guidance for pre-operative patients was up to date and based on the European Society of Anaesthesiology guidelines (Smith et al, 2011). Informal discussions were held with both nursing and medical staff about the implementation of the guidance, which identified that lack of communication between theatres and the admission or ward areas was often a problem. When changes were made to the order of the operating list, this information was often not communicated to the appropriate staff, resulting in longer fasting times for patients. Woodhouse (2006) highlighted the importance of communication between these teams, enabling nursing staff to adjust fasting times.

The priority was not only to improve communication between the operating theatre and admission/ward areas but also to improve decision making of the theatre team regarding patients who could continue to drink while waiting for their operation. The project group was aware that allowing patients to continue drinking could reduce opportunities for the theatre team to make last-minute changes to the list order. It was, therefore, important to engage the entire theatre team in the project.

Changing practice

With support of our anaesthetic project group members, a new pre-operative fasting guidance was developed in the form of algorithms. The group decided to develop a ‘Think Drink Moment’ and incorporate it into the theatre briefing that occurs at the beginning of every operating session. It involves the theatre team confirming the list order, estimating the duration of the operation for each patient and identifying those who can continue to drink while waiting for their operation. Any decisions made at the briefing are then communicated to the appropriate nursing staff to act on. Three algorithms were developed to support this process:

» Elective adult patients;
» Elective paediatric patients;
» Emergency patient pathway.

Elective algorithm posters were displayed in the appropriate operating theatres and three questions were added to the computerised briefing checklist that the team already completed as part of the trust’s Safer Surgery Project. These were:

» Is list order confirmed?
» Have patients who can drink been identified?
» Have decisions been communicated to the ward?

The emergency pathway guidance comprises two posters. One is displayed in all ward areas and instructs nursing staff to provide an approved drink for all emergency patients. Approved drinks include 200ml of tea or coffee with one-fifth of the volume consisting of skimmed or semi-skimmed milk. Emergency patients waiting...
fasting guidance offered to patients.

tion, to replace all previous pre-operative
and Drinking Before your Planned Opera-
patient information leaflet entitled Eating
sent out to patients. We also produced a
fasting information template, which was
developed to include advice on breast milk
and formula feeding.

The paediatric elective guidance was
developed to include advice on breast milk
and formula feeding.

Kytotatos et al (2014) noted the need to
scrutinise and where necessary improve
pre-operative fasting guidance for
patients. When we reviewed the current
patient information it was inconsistent
and sometimes outdated. To standardise
the fasting guidance for elective pre-oper-
ative patients, the project group produced
a fasting information template, which was
incorporated into all admission letters
sent out to patients. We also produced a
patient information leaflet entitled Eating
and Drinking Before your Planned Opera-
tion, to replace all previous pre-operative
fasting guidance offered to patients.

We took every opportunity to promote
the project and engage the major stake-
holders, including during theatre and ward
team meetings, trust development days,
doctors’ induction sessions and staff
preceptorship courses. A project newsletter
is also produced bi-monthly to provide
ongoing support for the project, and social
media continues to be a valuable communi-
cation tool to share project information.

Evaluation

The project has significantly reduced
the time drinks are withheld from
patients while waiting for their operation
(Fig 2), although we aim to further reduce
this waiting time to within the optimal
range of 2-4 hours (Levy, 2015) in the next
12 months.

We continue to gather patient feedback
and have seen a reduction in negative
comments regarding excessive waits.
Areas for improvement continue to be
identified from patient feedback; for
example, once a change to the operating
list order is made, patients are often
informed but the opportunity to offer a
drink at this time is often missed.

Conclusion

The project has seen a significant reduc-
tion in fluid fasting times for pre-operative
patients over the last year and we are well
on the way to achieving our target over the
next 12 months. The aim now is to build on

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