

# Pre-operative nausea and vomiting (PrONV)

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## Abstract

**Introduction:** Post-operative nausea and vomiting (PONV) remains a significant clinical problem, however no consideration has yet been given to pre-operative nausea and vomiting.

**Aim:** To establish the prevalence of pre-operative nausea and vomiting, and the extent to which this impacts on the patient's post-operative course.

**Materials And Methods:** A questionnaire was given to 100 patients prior to a general anaesthetic, who were later assessed for post-operative nausea and vomiting.

**Results:** Of these 100 patients, 14% experienced post-operative nausea. Within this group, 36% of patients felt nauseous pre-operatively, compared to 8% of the remainder of the cohort ( $p < 0.05$ ). The time interval since last oral fluid intake and pre-operative anxiety were also significant contributors to post-operative nausea and vomiting.

**Discussion:** Anaesthetists should be aware that if patients are feeling nauseous pre-operatively, they are more likely to suffer post-operative nausea and vomiting, and that prophylactic anti-emetics should be considered.

## INTRODUCTION

Post-operative nausea and vomiting (PONV) remains a significant clinical problem, and is a common cause of delayed discharge following day case procedures<sub>1</sub>. The pathology and physiology of this phenomenon is complex<sub>2</sub>. Whilst the topic has been studied at great depth, no consideration has yet been given to pre-operative nausea and vomiting (PrONV). The aim of this study is to establish the prevalence of pre-operative nausea and vomiting, and the extent to which this impacts on the patient's post-operative course.

## MATERIALS AND METHODS

Having sought approval for the study, a questionnaire was given to 100 pre-operative adult patients who were undergoing day case general anaesthesia at Derby City Hospital from 1st April 2007 to identify:

- the presence of pre-operative nausea
- the time interval since the patient's last meal
- the time interval since the patient's last oral fluids

- the degree of anxiety the patient was experiencing prior to their procedure (measured on 0-10 Likert scale).

The patients were subsequently assessed for post-operative nausea and vomiting following their procedure. Data was collected into a Microsoft Excel workbook, with a Mann Whitney U test being used to determine statistical significance.

## RESULTS

Of the 100 patients surveyed (69% male, median [IQR] age 54 [11] years), 14 (14%) experienced post-operative nausea and vomiting. 36% of these patients also felt nauseous pre-operatively, compared to 8% of the remainder of the cohort ( $p < 0.05$ ). The mean time to last fluid intake was 6.4 hours in those experiencing post-operative nausea and vomiting, and 4.8 hours in those not experiencing the phenomenon ( $p < 0.05$ ). The mean time to last meal was 11.4 hours for all, with no detectable difference between groups. Patients with significant anxiety pre-operatively (?5 on Likert scale) were more likely to experience post-operative nausea and

vomiting than those less anxious (36% vs. 14%;  $p<0.05$ ).

## **DISCUSSION**

There are several well known risk factors for post-operative nausea and vomiting, including travel sickness, a personal or family history and non smoking<sub>3</sub>. This study has identified three potential additional risk factors:

- Nausea pre-operatively
- Prolonged periods of time free from liquids
- Pre-operative anxiety

We therefore suggest that anaesthetists ask patients whether they are feeling nauseous when undertaking their pre-operative anaesthetic assessment. If patients answer yes, prophylactic anti-emetics should be considered. In addition, all efforts should be made to ensure that patients arrive in theatre fully hydrated and reassured. This may involve

adequate intravenous hydration for inpatients, and clear information and instructions for outpatients. Further work needs to be undertaken to establish the exact nature of this phenomenon.

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