Questionnaire on NPO status Prior to Surgery with Regard to Chewing Gum
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Introduction: There have been several case reports related to complications from patients chewing gum in the pre-operative period (1,2). These have been reported for all age groups. There is no consensus for the appropriate management for these patients. Our study involved a literature review to determine the risks involved and then a questionnaire to evaluate the local opinions regarding this issue. The review of the gastroenterology literature revealed an increase in gastric acid secretion secondary to chewing gum, resulting in an increase in gastric volume and a lower pH. In most articles fasted patients had a gastric pH < 2.5 with a residual volume of > 40ml. These risk factors as well as those identified from anesthesia case reports were used to determine the questions used in the survey.

Methods: Questionnaires were handed out to Anesthesiology Faculty at six hospitals involved in resident training. The following questions were asked.
1. Have you ever cancelled/postponed a case due to the patient having chewed chewing gum? Yes/No
2. Does your Department’s NPO guideline specify instruction for chewing gum? Yes/No
3. What are your concerns (if any) about chewing gum: -Increased saliva, Increased gastric volume, Increased gastric acid, Obstruction of airway
4. Case scenario: for 22-year-old elective surgery with LMA chewed gum until holding area
5. Case scenario: for 7-year-old elective surgery with LMA chewed gum until holding area – gum disposal not witnessed. Would you: - not delay case, delay case 3 hours, delay case 6 hours, cancel case.

Results: There was a response rate of 78% with 66 anesthesia attendings completing the survey. The average years of experience were 12 (1-35). 25% of the anesthesiologists had cancelled or delayed a case due to chewing gum. Only 1 hospital’s NPO policy included guidelines for chewing gum (The Children’s Hospital). 80% of the responders were aware of their department’s policy (or lack of) concerning chewing gum. 73% had some concerns regarding chewing gum and anesthesia (Figure 1). The response to the 2 case scenarios was significantly different (Figure 2). 29% would cancel or delay case 1 compared to 52% with the child in case 2 (p < 0.01). It was apparent that an anesthesia departmental policy affected practice. Those at the children’s hospital were more likely to have experience of canceling or postponing a case (p < 0.01) and were more likely to postpone or cancel either case scenario (p < 0.01). There was also intra-departmental confusion with some uncertainty regarding NPO policy and a variation in responses to the case scenarios.

Discussion: Most anesthesiologists have concerns regarding chewing gum, however most of the institutions we surveyed did not have a policy concerning this issue. The Children’s Hospital did have a policy probably as the problem has been encountered there more frequently, requiring a guideline to be created. The ASA guidelines concerning NPO and anesthesia do not mention chewing gum. We feel that NPO guidelines should include chewing gum and that the preoperative use of chewing gum does warrant delaying anesthesia for a similar duration as used following ingesting clear fluids.