

# Efficacy of a Smoking Cessation Intervention at the Time of a Preoperative Evaluation in Patients with Metabolic Syndrome

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## Objective

To determine the effectiveness of a brief smoking cessation intervention among patients with Metabolic Syndrome during a Preoperative Evaluation at Mayo Clinic Florida.

## Abstract

**Background:** Patients with metabolic syndrome, currently smoking, and scheduled to undergo a surgical procedure are at a greater risk for perioperative complications.

**Objective:** The project was designed to determine the efficacy of a brief educational intervention during a Preoperative Evaluation (POE) at Mayo Clinic Florida (MCF).

**Methods:** Subjects were chosen as a convenience sample of patients scheduled for POE visits at MCF. Subjects were 18 years of age or older, diagnosed with metabolic syndrome, and currently smoking. Primary data collection came from a self-report of smoking cessation during a telephone call approximately one month after scheduled surgery date. Patients who reported cessation were contacted at three months postoperatively to determine whether there had been sustained smoking cessation.

**Results:** Telephone contact was made with 93 participants and 29 had quit smoking (31%) from the time of surgery. Attempt to contact was made at 3 months, 16 patients were identified and 14 continued with cessation (88%). The Fagerstrom Test for Nicotine Dependence (FTND) score for 59% of the 29 patients was "very low" and "low" nicotine dependence.

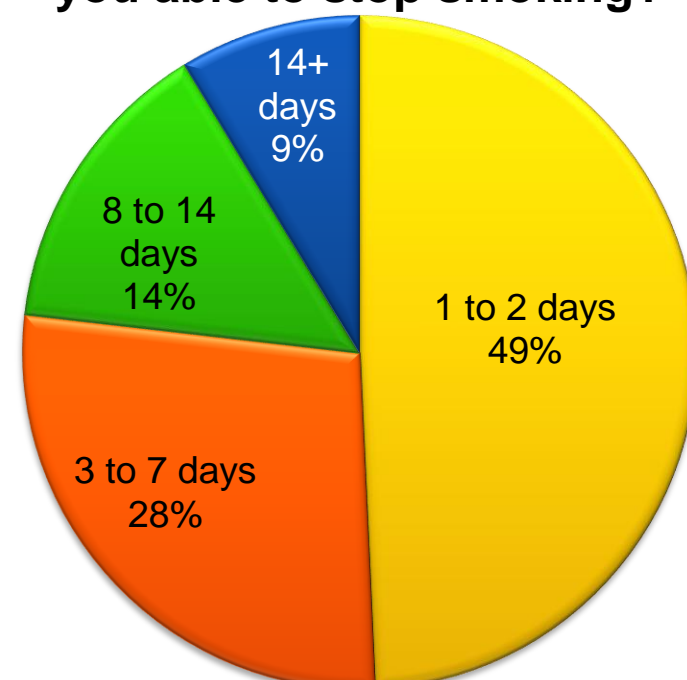
**Conclusions:** The brief smoking cessation intervention preoperatively was successful. A minimal amount of time and cost can reap enormous results in this population.

## Methods

- All patients seen in POE Clinic have smoking status assessed and those active smokers had their waist circumference measured to determine central obesity.
- Medical evaluation determined if patients met criteria for Metabolic Syndrome.
- Patients who met criteria were given the Mayo Clinic "Stop Smoking for Surgery" pamphlet and providers discussed its content with the subject.
- Those patients were then called by telephone to quantify the outcome of the intervention one month after surgery (Fig 1).
- Nicotine dependence was established by participant's response to FTND (Fig 2)
- Patients who had stopped smoking at one month were contacted again at three months from the surgery date to ascertain continued cessation (Primary Outcomes).
- Among the participants who had successfully stopped smoking the level of nicotine dependence was identified by the FTND (Fig. 2).
- The project started on January 12, 2015 and concluded on May 29, 2015.

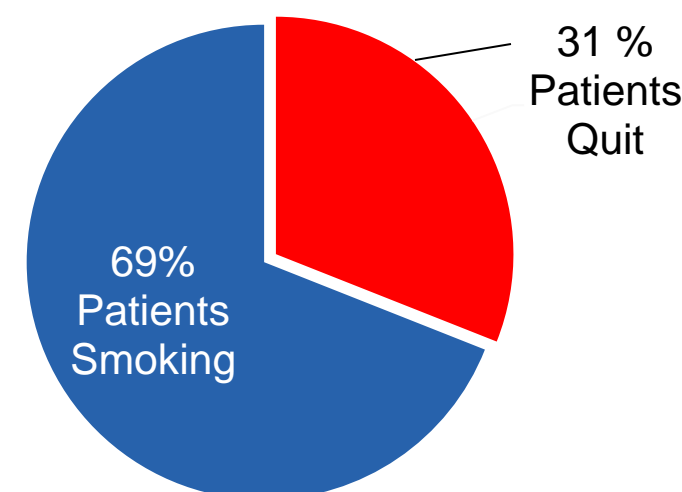
## Figure 1

Approximately how many days were you able to stop smoking?

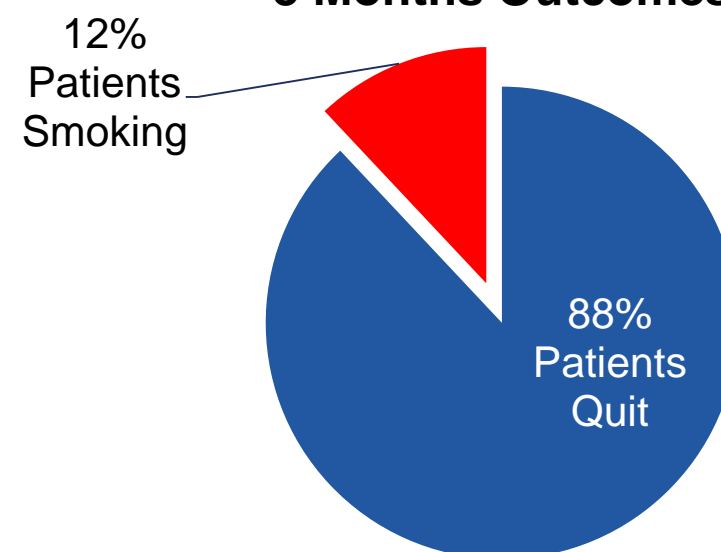


## Primary Outcomes

### 1 Months Outcome

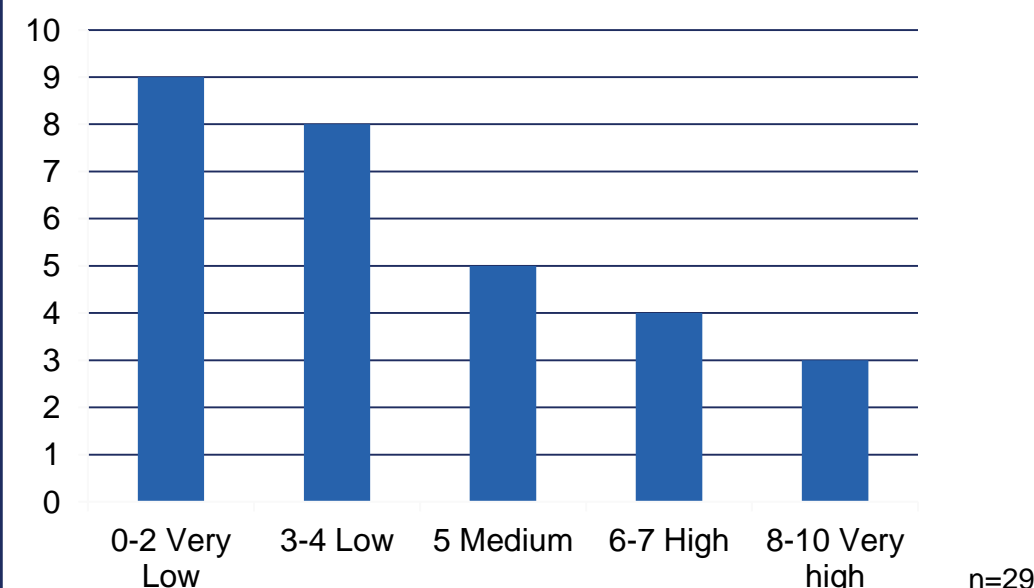


### 3 Months Outcomes

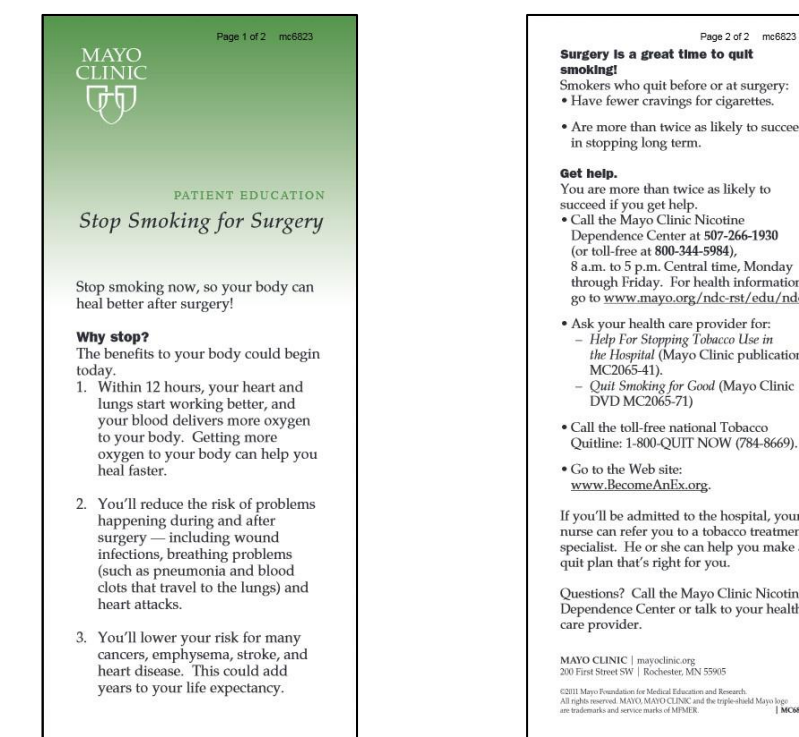


## Figure 2

FTND score when contacted.



## Patient Education Brochure



## Discussion

The project demonstrated that a brief smoking cessation intervention during a POE was effective in assisting pre-operative patients to quit smoking. The results are somewhat higher than the systematic review of the effectiveness of prior brief smoking cessation interventions. The cessation rates could be related to the timing of the intervention during a POE. The non-judgmental educational intervention that was patient-centered had a significant effect to the success rate. Self-report quit rates were high and could be related to the brief advice and pamphlet. The ability to discuss one-on-one with the provider may have had a beneficial effect. Health benefits and motivation to quit may have triggered a reflection on the harmful effects of smoking. Finally, the illness associated with the surgical procedure may have been an incentive to prompt smoking cessation.

## Conclusions

- A brief smoking cessation intervention was effective in assisting POE patients at MCF to quit smoking.
- This project demonstrated the effectiveness in the very low and low nicotine dependent population of patients.
- A minimal amount of time and cost can reap enormous results in the perioperative smoking population.
- Based on the above noted findings, recommendations are that a brief smoking cessation intervention be added to all POE.