

# Comparison of Improvised Ventilating Nasal Packs with Vaseline Gauze Packs in Nasal Surgery

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## ABSTRACT

**Objective:** To study the outcome of using Improvised ventilating nasal packs compared with Vaseline gauze packs in nasal surgery.

**Study Design:** A comparative study.

**Place and Duration of Study:** Department of ENT, Combined Military Hospital Rawalpindi, from July 2011 to December 2012.

**Materials and Methods:** One hundred and twenty patients undergoing nasal surgery were divided into two groups of sixty each. After surgery, Group A was packed with Improvised Ventilating nasal packs and Group B with Vaseline gauze nasal packs. Effects of nasal packs in both the groups were studied and compared in terms of control of bleeding, comfort level while in place, and discomfort level while packs were being removed.

**Results:** Patient comfort level was significantly better in Group A as compared to Group B, while there was no significant difference in post operative bleeding control among the two groups. Discomfort level while packs were being removed, was also similar among the two groups.

**Conclusion:** Ventilating nasal packs provide a better alternative to conventional nasal packs in terms of patient comfort after nasal surgery, while they are as good in providing bleeding control.

**Keywords:** *Improvised nasal packs, nasal packing, ventilating nasal packs.*

## Introduction

Nasal surgery is one of the corner stone's of otorhinolaryngology. In the USA approximately 600,000 patients underwent ambulatory sinonasal procedures in 2006 for various nasal conditions.<sup>1</sup> The foremost problem encountered after nasal surgery is bleeding, as nasal mucosa is one of the most vascular structures of the body being richly supplied both by the internal and external carotid system. Hence post-operative nasal packing is required to control it. Even if this bleeding is mild, it may clot resulting in adhesion formation. If the bleeding is severe, it may result in inhalation as well as swallowing causing aspiration and nausea and vomiting respectively.<sup>2</sup> But nasal packing is probably the most dreadful part of the nasal surgery from patients' perspective, as it results in discomfort causing nasal blockage and poor sleep while it is in place, and also causes severe discomfort while it is being removed. Apart

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from a few selected cases of septoplasty, where haemostasis can be achieved by stitching or fibrin glue, or other haemostatic agents, majority of cases require nasal packing as nasal packing provides tamponade effect.<sup>3</sup>

It has been a long journey in search of an ideal nasal pack that not only controls bleeding, but also causes minimal discomfort in terms of nasal breathing, good sleep and minimal pain and bleeding during its removal. Traditional nasal packing methods using Vaseline ribbon gauze or paraffin mesh may cause nasal obstruction, sleep disturbance, mouth dryness and adhesions formation due to the mucosal abrasions caused by them.<sup>4</sup> As these traditional packs do little in terms of patient comfort, especially patient is forced to breathe through mouth, they often result in an unsmooth recovery from anaesthesia, disturbance in sleep and distress. Hence many innovations of nasal packs have been carried out to maintain nasal breathing so as to reduce patients' inconvenience.<sup>5</sup> Ventilating nasal packs allow the patient to breathe through the nose thereby alleviating

the patient's distress, resulting in smooth recovery from anaesthesia and offer better sleep as patient can breathe through nose. Although commercially prepared ventilating packs are available nowadays, but in our part of the world, the huge costs mark a question mark on their cost effectiveness. Locally prepared ventilated nasal packs is not a new concept but has never been studied in our setup. Therefore we carried out a prospective study to compare the improvised ventilating nasal packs with traditional gauze packs to see their effects in terms of post operative bleeding control, patients comfort while the packing was in place, and discomfort while removing the nasal packs.

### Materials and Methods

This study was carried out in ENT Department, Combined Military Hospital Rawalpindi from July 2011 to December 2012. A total of 120 patients undergoing nasal surgery were included in the study. Patients were randomly divided into two groups A and B. Group A consisted of patients who were postoperatively packed with improvised ventilating nasal packs, and group B patients were packed with traditional Vaseline gauze packs. Improvised ventilating nasal packs consisted of 9 cm long size 5 French endotracheal tube on which Vaseline gauze was wrapped so as to give a cylindrical nasal pack with a breathing passage. They were secured by placing loose Vaseline gauze around them. The traditional Vaseline gauze pack consisted of 4 to 5 sheets of Vaseline gauze rolled on it to form a cylindrical nasal pack. The packs were removed 24 hours after surgery.

Patients were observed in three parameters:

1. Bleeding judged by any soakage/ change of pack
2. Comfort level judged by comfortable sleep/ disturbed sleep
3. Discomfort on pack removal, judged by pain/ bleeding.

The results were analyzed using SPSS 12.

### Results

In this study one hundred and twenty patients were included. There were 31 females and 89 males in the study and ages varied from 18 to 55 years.

Mean for age in group A was 38 years (SD 7.5) and in group B was 41 years (SD 5.3).

Difference in bleeding control was found not to be significant using chi square test (P value > 0.05) as shown in Table I.

Difference in comfort level was significantly better in Group A (Improvised Ventilating Pack) with P value < 0.05 as shown in Table II.

Difference in discomfort levels on pack removal was not significant with P value > 0.05 as shown in Table III.

**Table I: Bleeding episodes in patients (n=120)**

GROUP	BLEEDING	
	YES	NO
Group A	3	57
Group B	1	59

**Table II: Patient Comfort Level (n=120)**

GROUP	PATIENT COMFORT	
	Comfortable	Uncomfortable
Group A	42	18
Group B	5	55

**Table III: Pain on pack removal (n=120)**

GROUP	PAIN	
	Mild Pain	Moderate Pain
Group A	35	25
Group B	24	36

## Discussion

Nasal packing is routinely carried out primarily to control post operative bleeding, although some surgeons do not believe in this concept.<sup>6</sup> Nasal packing currently being used consist of either Vaseline gauze packs, finger glove stalls, or ribbon gauze packing. These packs though effective in stopping post operative bleeding but are extremely uncomfortable due to the fact that the patient is unable to breathe through the nose. Furthermore these packs cause headache, throat dryness and local discomfort.<sup>7</sup>

This study showed an excellent bleeding control in both these groups, probably bleeding control is more due to better packing technique rather than the nasal packing and the packing material.

In our study we found that our improvised ventilating packs were superior to conventional Vaseline gauze packs in terms of patient comfort as they reduced patients' inconvenience due to active nasal breathing. Similar results were shown by Kim et al.<sup>8</sup> But in other studies ventilating nasal packs are not found superior in maintaining eustachian tube function.<sup>9</sup>

The ability to have a patent airway after nasal surgery is of the utmost importance as it provides a natural way of breathing, where as a blocked nose as in conventional nasal packs causes throat dryness and headache.

In this study, discomfort in terms of pain and bleeding on removal of pack was not significant among both the groups. Probably it was because of the material of the packing, as some packing materials like merocel packs cause much pain and bleeding when removed.<sup>10</sup> Regarding materials to be used for nasal packing, biodegradable synthetic polyurethane foam has also found to be much superior as it causes less pain and bleeding.<sup>11</sup>

Commercially available ventilating packs

like Rapid Rhino are available but when compared to Improvised nasal packs the price is enormous. The ability to pack a patient's nostril helps the patient to breathe normally even though the patient has undergone nasal surgery.

## Conclusion

Ventilating nasal packs provide a better alternative to conventional nasal packs in terms of patient comfort after nasal surgery, while they are as good in providing bleeding control.

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