

believe that such information would be helpful for others who would like to try this technique.

As the authors note, in the presence of persistent air leaks for five consecutive breaths during standard face mask ventilation, they changed its placement to the lower lip by repositioning the caudal end of the face mask above the lower lip. However, the cephalad end of the face mask remained in the same location for both positions.

Our concern is that, if the cephalad end of the face mask is kept at the same location when moving the caudal end of the face mask upward to the site above the lower lip, this action may distort the shape of the face mask and increase its transverse dimension. This action can result in an increased risk of air leaks through the hollow cheeks because of an inadequate external face mask fit.

By comparing the authors' first two figures, one can see that the cephalad end of the face mask is in a different location in these two placements. Therefore, we would like to know in detail the method they use to obtain an adequate seal when the face mask is changed to the lower lip placement and the location of the cephalad end of the face mask is not changed.

In addition to the techniques mentioned by the authors,<sup>1</sup> readers may wish to learn about a method we prefer. For edentulous patients, we apply a large face mask so that the chin fits entirely inside the face mask with the seal on the caudal surface of the chin, the cheeks fit within the face mask, and the sides of the face mask seal along the lateral maxilla and mandible. If an adequate seal cannot be achieved using a large face mask, placing the moistened gauzes with the suitable size at the hollow cheeks can often improve contact between the cheeks and face mask.<sup>2</sup>

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## Another Way to Eliminate an Air Leak during Mask Ventilation in Edentulous Patients

To the Editor:

I read with interest the article by Racine *et al.*<sup>1</sup> that demonstrated that repositioning of the caudal end of the mask above the lower lip resulted in a reduced air leak in edentulous

patients. Another effective technique for a problematic situation is always welcome. However, my concern, based on personal experience and figure 2 from the study by Racine *et al.*, is that, in some patients, pressure may be applied to the eye, risking ocular damage. I have been around situations in which the facemask was moved cephalad to obtain a better seal. On occasion, the facemask would then be in direct contact with the closed eyelid. In addition, I am confused by their statement that the cephalad end of the mask stayed in the same location for both positions. First, a comparison of their figure 1 with their figure 2 would suggest otherwise. Second, how can one end of the facemask be moved without moving the other end?

Because of the potential risk of ocular damage, I would try other methods first. As an alternative, head straps can be used to buttress the cheeks against the facemask in a standard position. There was no mention of using head straps during their study or in any of the background studies discussed. I am unaware of any data that evaluate the efficacy of head strap use in this situation. I have been highly successful in dealing with air leaks in edentulous and bearded patients by inserting an oral airway and using head straps. In a few patients, a variable-sized leak may remain, but it is rare to not be able to achieve adequate ventilation. This avoids the risk of ocular trauma. Although not always necessary for ventilation, the oral airway tends to lessen the magnitude of the positive pressure required for adequate ventilation, thus reducing the tendency for an air leak *via* the facemask-patient interface. By using head straps, usually only one person is needed to manage such an airway. Head straps may be particularly helpful for those practitioners who have small hands, short fingers, or limited hand-finger strength by virtue of fatigue or constitution. A formal evaluation of head strap efficacy would be welcomed.

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In Reply:

We would like to thank Xue *et al.* for their comments on the placement techniques we recently described<sup>1</sup> for face mask ventilation in edentulous patients. Their concerns focused on the exact position of the cephalad end of the mask.

In our original description, we stated that the cephalad end of the mask stayed in the same location when moving the mask's caudal end above the lower lip. In fact, the cephalad end of the mask may shift upward slightly, as shown in our original figures.