circulating cortisol concentration was found during surgery with the combined technique as retrobulbar block had denervated the eye.

Our conclusion was not that retrobulbar block failed to prevent a stress response; indeed it obviously does block the endocrine and metabolic response to cataract surgery. The major finding was that, despite an obviously adequate retrobulbar block preventing the stress response to surgery, on waking from anaesthesia, an increase in cortisol concentration occurred in a pain-free patient.

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Laparoscopy and the laryngeal mask airway
Sir,—I read with interest the study by Malins and colleagues on postoperative nausea and vomiting after gynaecological laparoscopy [1]. Co-incidentally, the standard anaesthetic technique involved ventilation via the laryngeal mask airway (LMA) and in their discussion the authors correctly observed that this technique is controversial [2, 3], even though current trials suggest it is safe [4, 5]. Composite data from previously published literature reveal that, despite an obviously adequate retrobulbar block preventing the stress response to surgery, on waking from anaesthesia, an increase in cortisol concentration occurred in a pain-free patient.


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4. Goodwin APL, Rowe WL, Oggi TW. Day case laparoscopy—a comparison of two anaesthetic techniques using the laryngeal mask airway (LMA) and in their discussion the authors correctly observed that this technique is controversial [2, 3], even though current trials suggest it is safe [4, 5]. Composite data from previously published literature reveal the stress response to surgery, on waking from anaesthesia, an increase in cortisol concentration occurred in a pain-free patient.


Sir,—The obvious clinical benefits in the early recovery phase persuaded us to pursue the technique of controlled ventilation using a laryngeal mask airway (LMA) for day-case laparoscopy, in selected cases. From the outset, in our clinical practice, we considered the potential risks of aspiration, excluding its use in women with a history of gastro-oesophageal reflux, obvious obesity or when prolonged Trendelenburg position was anticipated. During initial clinical experience with controlled ventilation using an LMA, we observed passive regurgitation in two patients, which did not result in aspiration. Both women were of short stature, 157 cm in height, weighing 80 kg and 85 kg. As a result we became more stringent in patient selection with regard to relative obesity. Co-incidently, passive regurgitation with aspiration occurred in our patient during induction of anaesthesia for gynaecological laparoscopy when tracheal intubation had been planned from the outset, thus illustrating that it is a potential hazard.

After initial insufflation of the peritoneal cavity with carbon dioxide, intra-abdominal pressure is limited to between 12 and 15 mm Hg using an automatic insufflator (Wolf Endo-chirurgie-path). We do not use controlled ventilation with an LMA for laparoscopic pelvic surgery since steep Trendelenburg is required. The amount of tilt used normally is limited to 15°. We have not had any difficulty achieving adequate gas exchange as evidenced by the routine use of end-tidal capnography and pulse oximetry. Occasionally an audible leak has been apparent and resolved by positioning the patient’s head to one side. On four occasions, it was not possible to achieve a satisfactory airway and before leaving the anaesthetic room, elective tracheal intubation was performed.

Although we have used this technique for the past 6 yr, on about 3000 occasions for gynaecological laparoscopy without serious morbidity, we stress the importance of patient selection and precautions.

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Fresh gas requirements during spontaneous ventilation
Sir,—In their recent study, Soni and Ooi compared the fresh gas flow (Vf) at the onset of rebreathing in the Mapleson A system expressed as a ratio of minute volume (Vf/Ve), with the same Vf expressed in ml kg⁻¹ min⁻¹ [1]. The authors concluded that both forms of Vf were equally good descriptions of the fresh gas requirement of the system during spontaneous ventilation in adults. As we previously studied the fresh gas requirements of children breathing from a modified Mapleson A system [2], we have re-examined our data to find out if this conclusion is valid for a more heterogenous group of patients.

<p>| Table 1. Fresh gas flow at onset of rebreathing expressed as a ratio of minute volume (Vf/Ve) and in ml kg⁻¹ min⁻¹. Data from anaesthetized children breathing from a modified Mapleson A system (n = 10) |
|-----------------|-----------------|-----------------|-----------------|</p>
<table>
<thead>
<tr>
<th>Vf/Ve</th>
<th>Mean</th>
<th>sd</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>-----------------</td>
<td>-----------------</td>
<td>-----------------</td>
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</tr>
<tr>
<td>0.47</td>
<td>74.8</td>
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<tr>
<td>0.08</td>
<td>22.9</td>
<td></td>
<td></td>
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<tr>
<td>0.30–0.53</td>
<td>36–103</td>
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</table>

The results in Table 1 indicate that while there was a two-fold variation in Vf/Ve at the onset of rebreathing in our paediatric patients, there was a three-fold variation in Vf when expressed in ml kg⁻¹ min⁻¹. This probably reflects the fact that carbon dioxide output is not linearly related to weight but to body surface area and hence metabolic rate. As the surface area to weight ratio is greater in smaller subjects, so carbon dioxide output, normal minute ventilation and the flow rates required for non-absorber breathing systems are also greater in ml kg⁻¹ min⁻¹.

We conclude that for paediatric patients, Vf/Ve at the onset of