benefits derived from the soft cups? Serious injuries associated with vacuum extraction are not restricted to the use of metal cups (Plauche 1980; Govaert et al. 1992); cranial and intracranial injury following the use of soft cups have been reported recently (Hanigan et al. 1990; Hall 1992). The incidence of superficial and serious injuries may be reduced or avoided by careful attention to correct technique and strict adherence to a number of safety factors (Vacca 1992).

Johanson et al. comment that operators had difficulty adhering to the recommendations of the trial protocol. This is not surprising since the allocation of patients into one of the three different vacuum cup categories was based on the degree of flexion or deflexion rather than the more commonly described positions of the fetal head (occiput anterior, lateral or posterior). Asynclitism, an important factor that predisposes to incorrect (paramedian) applications of the cup, was not incorporated into the assessment guidelines. Furthermore, operators were required to distinguish straightforward procedures from the more difficult procedures on the basis of head flexion or deflexion. While a straightforward lift-out delivery may usually be anticipated if the head is on-view between contractions, the degree of difficulty of an instrumental procedure is less easy to predict when the fetal head is at higher stations of the pelvis. Instead of placing greater onus on the operators with additional tasks when performing vacuum extraction, effort should be directed to reducing the number of failed procedures by identifying the reasons for the failures and ensuring that technique with the instrument is correct (Vacca 1992).

I would suggest a few guidelines that may improve the practice of vacuum extraction. The soft cups, because of their design limitations should be restricted for use in outlet or low nonrotational procedures by operators who do not intend to perform midpelvic rotational extractions. Although the soft cups appear to have some short term cosmetic benefits for the fetus, obstetricians at the start of their training who intend to use the vacuum extractor for rotational procedures would be well advised to develop confidence and skill in the use of the metal Anterior cups for outlet and nonrotational midpelvic procedures because the basic technique of vacuum extraction using these cups is similar in all positions once the cup has been applied correctly to the head. The experience thus gained with the Anterior cup will prove invaluable when the more complex rotational operations are attempted using a Posterior cup. Operators who are not familiar with the vacuum extractor should begin their training with a programme of straightforward outlet procedures, graduating to midpelvic nonrotational operations and only after mastering the technique in these circumstances, consider attempting rotational procedures (Vacca & Keirse 1989).

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Author’s reply
Sir,
We appreciate the interest shown in our paper by Drs Thorp and Vacca. We can reassure Dr Thorp that none of the patients in either group had a midline episiotomy. The standard practice in all four hospitals is to undertake a medio-lateral episiotomy where indicated. We were alarmed to see that in the study to which he refers (Combs et al. 1990), third- and fourth-degree lacerations occurred in 30% of deliveries (compared with our 5 to 8%).

Although Dr Vacca is concerned that the higher successful vaginal delivery rate with the vacuum should be interpreted with care, it must be emphasised that this is a finding consistent across a number of studies, and may be due to its greater efficacy in deflexed occipito-posterior cases. Thus, far from discouraging the use of the Posterior cup, we believe that every obstetrician should be experienced in its use. However, we have found that with a well-angled attitude and minimal caput both occipito-lateral and occipito-posterior positions are amenable to successful delivery with the Silc-cup (Johanson et al. 1989).

We agree that incorrect technique was the likely explanation for failure in the majority of cases in our current study. Fewer failures can be expected when guidelines are followed (Johanson 1992a, b). A midline application is essential, but an assessment of asynclitism should only be stressed for the more complex cases. Indeed, Bird (1976) found no paramedian applications with low occipito-anterior or posterior positions, and he emphasised above all else the importance of flexion in vacuum extractor delivery.

We do not agree that significantly fewer scalp abrasions are simply a marginal benefit of soft cups. It is scalp damage that results in increased worries amongst vacuum delivered mothers (Johanson et al. 1993). Serious injuries with the use of soft cups have not occurred in our series. It should have been pointed out that the intracranial and subgaleal haemorrhage reported by Hall (1992) occurred after 70 minutes of soft cup application, followed by 40 minutes of metal cup application.

Richard Johanson on behalf of all his co-authors
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