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FACT SHEET

Vacuum Assisted Delivery (VAD)

The idea of a vacuum assisted delivery has been around for centuries. There have been many devices designed and created, even in ancient times, to deliver babies with a vacuum. None of these worked reliably until science intervened and improved the device to make a vacuum assisted delivery a viable option from about the middle of the 20th Century. Since then the vacuum has been modified and improved multiple times to create the modern devices we use today.

There are a couple of prerequisites required for vacuum delivery to be successful. Firstly, the woman needs to be fully dilated and the baby presenting in the head first position. It is also ideal for the woman to be able to push effectively. The vacuum is designed to manipulate the position of the baby's head to make pushing easier. A vacuum delivery is often unsuccessful in the case where a woman is unable to push effectively. In these situations a forceps delivery is preferred. There are many reasons for needing to do a vacuum assisted delivery, such as, acute fetal distress or a delay in the second stage of labour (the pushing phase).

Another common reason may be a baby that is in the occiput posterior position, that is, the baby is facing towards the pubic bone. These positions often make pushing very difficult and with the aid of the vacuum the head is able to be rotated to allow easier delivery.

Just as a tradesperson needs to be familiar with his or her tools, an obstetrician needs to be familiar with the vacuum in order to affect a delivery without causing harm. Before the vacuum has even been applied to the baby's head there is always swelling under the scalp. The vacuum is applied to the apex of the baby's head and when suction is applied the fluid which causes the swelling under the scalp is sucked into the area under the cup of the vacuum. This area will appear purple after the cup is removed. It is not really a bruise and the colour disappears after about a week. A bruise would normally go through some colour changes before disappearing after approximately six weeks. It is not uncommon for small blisters to form around the edges of the cup and these should be left alone. They will usually heal within the week.

On occasions more serious injuries to the baby's scalp can occur. Sometimes the skin may peel off and leave a raw area. Again, this will heal on its own within the week. Other complications include the formation of haematomas (a collection of blood under the skin), the majority of which are harmless to the baby, but some can be quite large and the baby may require a blood transfusion.

The most serious injury that can happen to a baby is bleeding within the substance of the brain. This occurs if the obstetrician continues to pull on the vacuum despite the fact that the head is not descending. To combat against this complication obstetricians set limits as to how many pulls are performed before the procedure is aborted. In my practice I allow 3 pulls for the head to descend to the opening of the vagina and then 3 pulls to deliver the head. The majority of vacuum assisted deliveries are successful after only 1 – 3 pulls in total. If a vacuum fails to deliver a baby, then the next step is to perform an urgent Caesarean section.

We should not forget the mother and partner in all of this. When a vacuum delivery is needed a discussion is had between the mother, partner and obstetrician regarding why the vacuum is appropriate and the possible risks and complications of the procedure are discussed. This can often be done in a matter of 1 or 2 minutes.

Sometimes, the urgency of the situation requires that the obstetrician act quickly to deliver the baby before harm is done. On occasions when conducting a vacuum delivery an episiotomy may be needed, but the risk of more serious damage to the mother's perineum is much reduced compared to having a forceps delivery.

Once the baby is delivered it is handed over to the paediatrician for a check-up and if well is returned to the mother for skin to skin contact. The obstetrician will at some time after the delivery, check the baby's scalp and debrief the parents regarding the procedure, the reason why it was done and t

In my practice, I repeat this conversation the day after delivery as the period of time during and shortly after delivery is a very emotional one and can sometimes be overwhelming for the new parents.

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