anaesthesia. It is an opportunity to discuss epidural analgesia and other questions the woman may have.

Specialist Anaesthetist assessment is important early in pregnancy.

DNA testing is carried out in some centres to test for malignant hyperthermia. Different families have different DNA abnormalities, so a negative test still requires further follow up. DNA testing can be done on cord blood to allow earlier diagnosis of malignant hyperthermia susceptibility in the baby. This should be discussed with an anaesthetist antenatally so that arrangements can be made for DNA testing.

Management of emergency surgery is best done under regional anaesthesia. However, on rare occasions there is no time for this. Therefore it is important that the theatre staff are prepared ahead of time. When a woman susceptible to malignant hyperthermia starts in labour, her lead maternity carer should notify the operating theatre and the on-call specialist anaesthetist. Even if surgery is carried out under regional anaesthesia, the correct equipment needs to be available for general anaesthesia if complications occur.

There are now general anaesthetic techniques available that are quite safe for people susceptible to malignant hyperthermia, including intravenous infusions of propofol, and intubation using remifentanil. An anaesthetic machine free of volatile anaesthetic agents needs to be used. Dantrolene and equipment for rapid cooling need to be immediately available to the theatre team.

This is one of the reasons why it is strongly recommended that these women have their baby delivered at a base hospital. The special anaesthetic requirement are more likely to be available at short notice.

FEEDBACK...

We encourage feedback and assurance is given that comments will not adversely affect your current or future care.

You can do this:

- through discussion with MidCentral Health staff providing your care
- by completing “Tell us what you think…” pamphlets available from all services
- by contacting our Customer Relations Co-ordinator, PO Box 2056, Palmerston North or phone (06) 350 8980
- by contacting a Health and Disability Commissioner Advocate, phone 0800 112 233.

February 2002
Communications Ref: 1042
CHILDBIRTH AND MALIGNANT HYPERTERMIA (MH)

Childbirth is always an unpredictable time of life. Most babies are born normally, without any problems, but even after a normal pregnancy, things can go wrong during labour.

Women who have had several normal deliveries, sometimes need emergency caesarean section for another baby. The type of general anaesthetic used for emergency caesarean sections or other emergency surgery requires the use of the very drugs most likely to trigger malignant hyperthermia. These drugs can cross the placenta to the unborn baby.

It is therefore important that everyone caring for a woman at risk of malignant hyperthermia, or the partner of a man susceptible to malignant hyperthermia, knows that the risk is there. Sometimes things happen so fast that there is no time to prepare.

Malignant hyperthermia susceptibility is genetically transmitted. This means that a baby has a 50% chance of being susceptible to malignant hyperthermia if either of his parents is susceptible. Therefore the woman who has no risk herself, but whose partner, the father of her baby, is susceptible, must be looked after to protect the unborn child.

The safest anaesthetic for a woman or baby at risk of malignant hyperthermia, is a regional anaesthetic. By that is meant the use of an epidural, spinal, or combined spinal epidural to make the lower half of the body numb. Surgery can then be carried out without pain, and without the risk of triggering malignant hyperthermia. Regional anaesthesia takes longer to take effect than does a general anaesthetic, when the woman can be put to sleep very rapidly. It is therefore important to have more warning, and more preparation time, if a woman or baby is susceptible to malignant hyperthermia.

This is one of the reasons why it is strongly recommended that these women have their baby delivered at a base hospital. If things unexpectedly go wrong, there is time to provide the safest anaesthetic.

Stress has sometimes been thought to be a cause of malignant hyperthermia. There is a lot of work for the body in a normal labour, and a lot of stress. It has been postulated that the work and stress of labour may itself precipitate malignant hyperthermia. No such event has ever been documented. However, it is thought to be important to reduce the stress to the body during labour for women and babies at risk of malignant hyperthermia. Epidural analgesia is the best form of analgesia for reducing stress in labour to both mother and baby. There is no indication to avoid pushing in second stage – spontaneous vaginal delivery is fine.

This is one of the reasons why it is strongly recommended that these women have their baby delivered at a base hospital. Epidural analgesia in labour can reduce the stress to mother and baby.

The woman and her baby should be closely monitored during labour and for four hours after delivery. This is to ensure that any problems with labour are acted on promptly, so reducing the need for emergency general anaesthesia. At our hospital we monitor mother’s temperature, pulse and blood pressure hourly throughout labour and for four hours postpartum. Fetal heart rate monitoring is carried out during labour, and the baby’s temperature, heart rate and respiratory rate are monitored hourly for four hours after birth. Close monitoring after delivery ensures a rise in temperature or other signs of stress response are acted on immediately. Discharge home or to a low dependency unit is possible after four hours.

Even if baby is delivered at a base hospital, mother and baby can return home or to a smaller birthing unit four hours after delivery.

Assessment in early pregnancy is important for women or babies at risk of malignant hyperthermia. Early referral allows time for family trees to be examined, and information to be obtained from other hospitals. Relationships can be clarified and the true nature of adverse anaesthetic events assessed. This is much easier than at 2.00 am with a woman in labour. Antenatal assessment by an anaesthetist also involves examination of the airway to give more information about the risk of emergency general