

Care of the patient in recovery inadvertent hypothermia case nursing essay



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Before the author can discuss hypothermia in regards to the patient above they must first review how the body regulates heat control within the body.

Many sources, give varying definitions of what normal body temperature or normothermia is. For example Marieb (2004) defines this as a core temperature range from 35. 6°c and 37. 8°C. Meanwhile Kiekkas and Karga (2005) defined the normal temperature range of adult patients as between 36. 5°C and 37. 5°C. National Institute for Health and Clinical Excellence (NICE) 2008 guideline for the management of inadvertent perioperative hypothermia agree with this definition.

Core temperature, defined by Kiekkas and Karga (2005), is the blood temperature of the central circulatory system, which can be measured for example at the pulmonary artery, rectum or via the tympanic membrane, which occurs in recovery at Hospital x.

The hypothalamus is the central organ that acts as the body's heat promoting and heat loss centre, then brains thermoregulatory centre. Body temperature is kept stable and regulated with the help of blood. The neuronal centre in the posterior hypothalamus is triggered when there is a decrease in temperature in the blood or the external temperature is low. Mechanisms for heat conservation and heat production are triggered such as, shivering, which is the body's natural response to cold, constriction of blood vessels in the skin and increased metabolic activity to produce energy (Hatfield and Tronson, 1996; Marieb, 2004).

As with the varying definitions of normothermia, there are also differing definitions in hypothermia. NICE (2008) guideline defines hypothermia as a <https://assignbuster.com/care-of-the-patient-in-recovery-inadvertent-hypothermia-case-nursing-essay/>

core temperature of less than 36°C. Similarly several authors agree with this definition, Aikenhead et al (2007), American Society of Peri Anesthesia Nurses (ASPAN) (2009); Clarke and Clark , 1997). Meanwhile Kiekkas and Karga state, hypothermia as a “ core temperature of more than 1 (standard deviation) less than the mean value under resting conditions in a thermoneutral environment” (Kiekkas 2005, p444)

There are 4 ways in which the body loses heat; conduction, convection, evaporation and radiation. Talk about these briefly!

There are patients who are more at risk of developing hypothermia these include; older and younger patients. The size of the patient: thin, due to the lack of tissue mass and obese, due to the large surface area. The type of procedure: open thoracic, abdominal, gynaecological or genitourinary. Patients having a combined general and spinal anaesthesia (Welch, 2002)

Patient A falls into some of these categories, because of the type of surgery, age and anaesthesia she will be having.

As part of the pre operative check in Patient A was asked the last time she had eaten, this was 12 hours before the procedure. Advice of fasting for 6 hours plus is given to patients to prevent nausea and vomiting during and after the induction of anaesthesia, as this along with the spinal causes the constriction of the abdomen and stomach. This in turn deprives the body of the metabolic system of energy it needs from food digestion (Cobbold & Money 2010; McNeil, 1997).

Following administration of Propofol and Remifentanil via a TIVA syringe pump, the patient was intubated with a size 7 endotracheal tube.

Anaesthetic medications such as those given to Patient A; Propofol, depress the central nervous system which mean the hypodermic thermoregulatory centre function is decreased. This occurs as there is an increase in conduction and radiation to the peripheral points of the skin, where heat loss is at most, as the skin has a large surface area. This loss of heat is difficult to manage after anaesthesia has been administered as heat distribution, which is the increase in peripheral temperature and a decrease of core temperature has taken place (Kiekkas & Karga, 2005; Sasad & Smith, 2000).

With her airway secured, Patient X was positioned for the administering of a spinal. Her back was exposed and sprayed with chlorhexidine gluconate solution, for pre operative skin disinfection (BNF, 2008), a cold solution thus further contributing to the decrease in Patient A's body temperature, via evaporation (Bellamy, 2007).

The effect of administering Diamorphine and Marcain Heavy® is that it causes the sympathetic nervous system to be compromised as vasodilatation occurs (Fallacaro et al, 1986).

Patient A was taken into theatre, where the ambient temperature as recorded by the author was 21°C, reason for the temperature being so low is to minimise the growth of bacteria. However such a low temperature would affect Patient A as her body temperature will vary according to the environments' conditions (Bellamy, 2007). McNeil (1998), advocates that the temperature in theatre should be raised from 21°C to 24°C to maintain

Patient A's core temperature, which unfortunately was not taken until the procedure in the operating had started. Whilst the author agrees with the later point so that the patients' temperature is taken into consideration, they have to agree with Bellamy's (2007) point on minimising bacteria production.

Patient A was exposed for catheterisation and for the Bair Hugger® to be positioned. This is a forced air system used in Hospital X, which several sources agree, is the best form of preventing inadvertent hypothermia (Hegarty et al, 2009; NICE Guidelines, 2008; Welch, 2002). This was however switched on at 36.5°C after Patient A had been prepped and draped.

Fluids were firstly administered to Patient A in the anaesthetic room at room temperature; they were then transferred into a warming coil at a temperature of 37°C. Whilst the NICE (2008) guidelines recommend warm fluids are administered in the operating room at the temperature stated, the author feels that warm fluids should have been started in the anaesthetic room.

The monitoring of Patient A's temperature occurred after draping and prepping, it was measured using an oesophageal temperature probe as this measures the core temperature accurately and documented every 15 minutes (Al-Shaikh and Stacey, 2002; NICE, 2008). NICE (2008) recommends that temperature of a patient should be 36°C before a procedure should proceed, the temperature of Patient A on arrival to the anaesthetic room was not taken and the first temperature in theatre was 35.6°C increasing to 36.0°C at the end of the procedure.

After the procedure, which had no surgical complications and Patient A was extubated, she was transferred to recovery where the tympanic temperature; which is associated with the brain temperature therefore reflects the core temperature (Al-Shaikh and Stacey, 2002), was taken in recover 10 minutes after the patient arrived and was recorded to be 35. 4°C.

Handover to the recovery personnel included patients name, date of birth, procedure, what drugs had been administered and the anaesthetist made an emphasis on the patients temperature which they wanted to make sure was up to at least 36. 0°c before the patient was transferred to the ward, part of the NICE (2008) guidelines. Standard recovery monitoring including Oxygen saturation, electrocardiogram and blood pressure results were constantly observed, with results being documented every 15 minutes.

The effects of hypothermia are not known until the patient comes into recovery for some time as the effects are masked by the anaesthetic drugs given to Patient A. (Kiekkas et al, 2005). To prevent this a Bair Hugger was placed on Patient A to continue the warming cycle.

There are many complications associated post operatively with hypothermia, the most common is post anaesthetic shivering, which is an involuntary muscular activity. This is bought on by the body returning to normal

Delayed emergence, where the metabolism of drugs is decreased, as it makes it more difficult for the anaesthesia to be reversed due to the hepatic and renal functions being impaired. Add liver metabolism of drugs to this section

Pressure sore development

Blood clots – clotting cascade, platelets do not work increased bleeding

Discharge criteria

Patient A woke up fully after 20 minutes in the PACU with no complaints of pain, sickness or nausea but thirst. Her temperature was taken again and this was found to be 35. 8°C, a marked improvement on her original recovery temperature. Before the patient is transferred to the ward what scale used observations etc? Urine output from catheter

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