

Hospital Authority Convention 2018

Maintenance of Normothermia during surgery

**Pok Oi Hospital
Operating Theatre
Ms. CHIM TSZ LING APN
7th May, 2018**



Background

Surgical patient are at risk of developing hypothermia at any stage of the perioperative pathway.

Maintenance of Normothermia

reduce the risk of postoperative cardiac events, bleeding, and surgical site infection

What is Normothermia ?

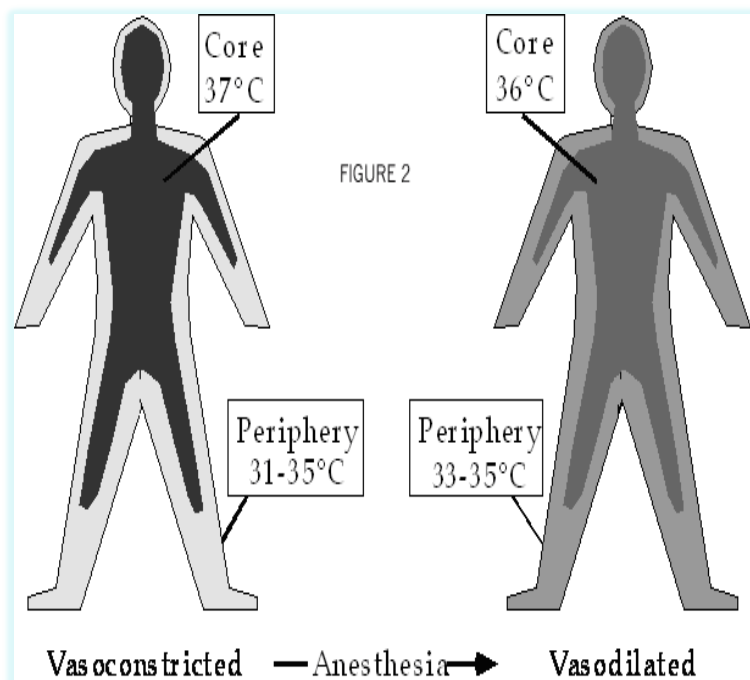
- **A core temperature**
- **temperature of the internal environment of the body**
- **range 36 °C to 37.5 °C**



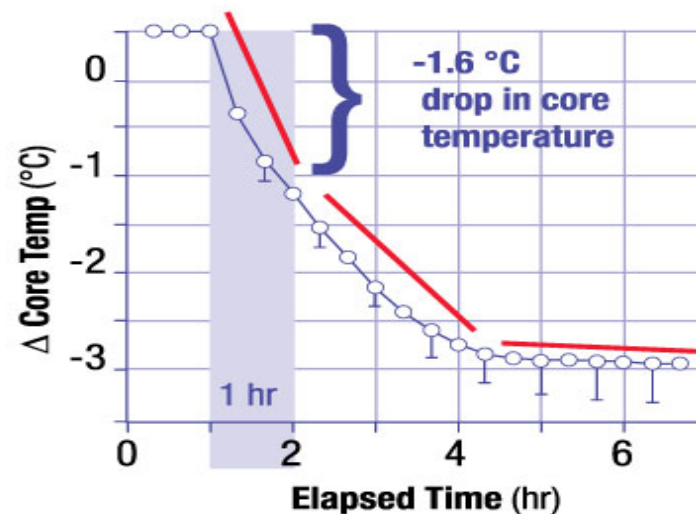
Background

Inadvertent perioperative hypothermia (IPH)

➤ A Core temperature $< 36^{\circ}\text{C}$ (NICE,2016)



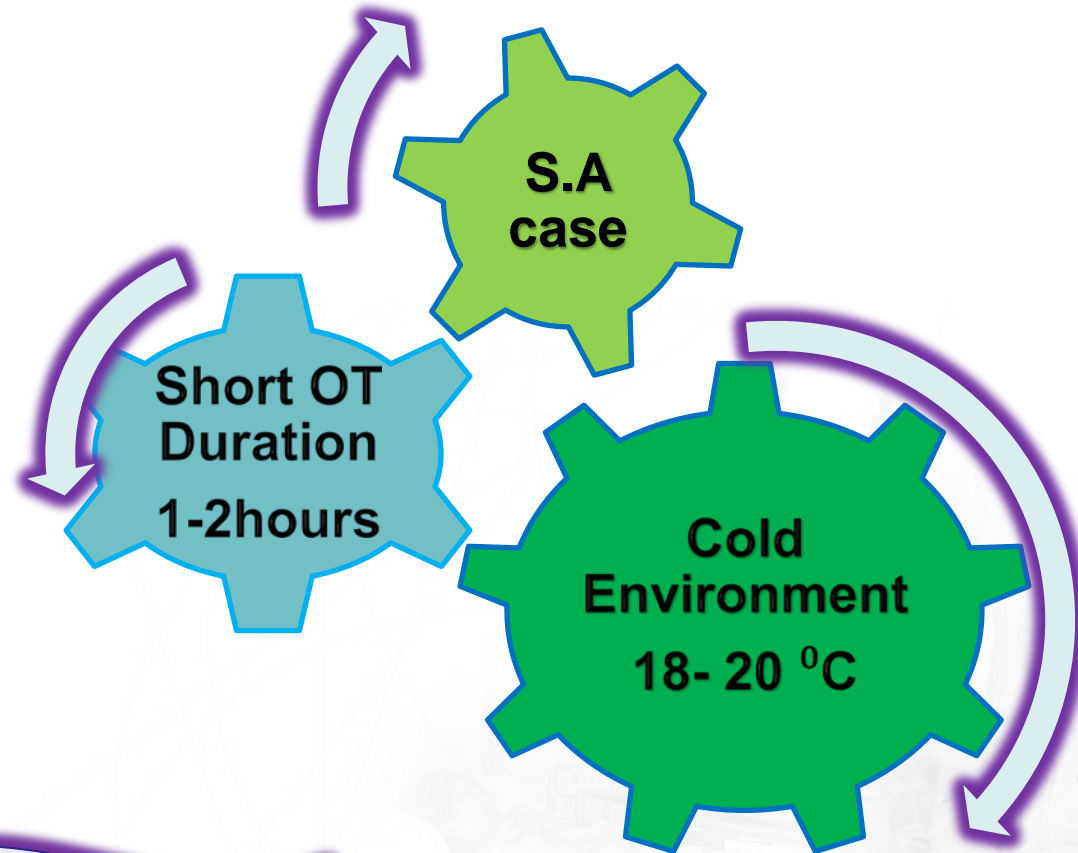
Characteristic Patterns Of General Anesthesia Induced Hypothermia



Bayter-Marín , Rubio , Valedón , Macías (2017)



Reasons of hypothermia in POH OT



In 10/15 -3/16
Post-operative hypothermia rate
38.8%



Pre-operative measurement

1. On-call temp by ward nurse

2. Pre-warming to patients in induction room

if Temp $\leq 36^{\circ}\text{C}$ or complain cold

High risk group e.g old age patient, urology case, hip case

Ready heat blanket



Pre-operative measurement

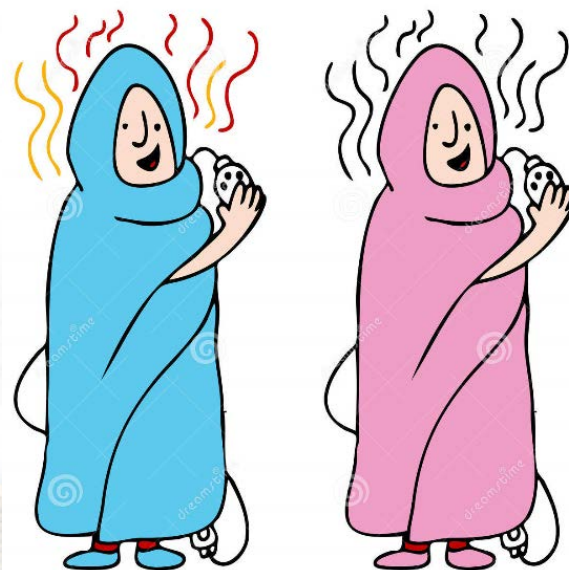
3. Set theatre temperature between 20°C -22°C

4. Monitoring the theatre ambient temperature twice a day



Pre-operative measurement

5. All patients receive a new warm blanket and disposable warming blanket immediately after transferring to OT



Active warming measure

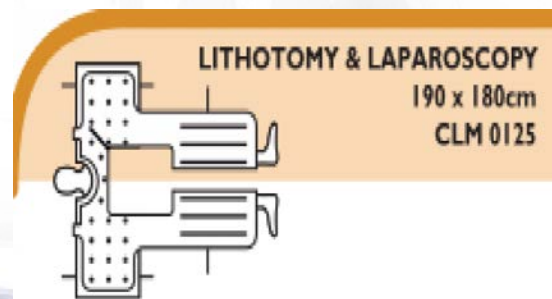
6. Apply Thermal heating mattress and whole body Bair



Half body



Whole body



During Induction

- Start active warming before induction
- bair hugger for 5-10 minutes



refrain from
exposing patient

→ Thermal heating mattress

Why??

- minimized heat loss due to vasodilation by anesthetic agent
- body's heat from center to outer re- distribution, which is characterized by early and fast



Spinal /Regional Anaesthesia



- **Avoid unnecessary body exposure**
- **Keep patient covered like in Bair Hugger**
- Shielding on turning supine**

Intra-operative monitoring

General Anesthesia cases

➤ Temp probe

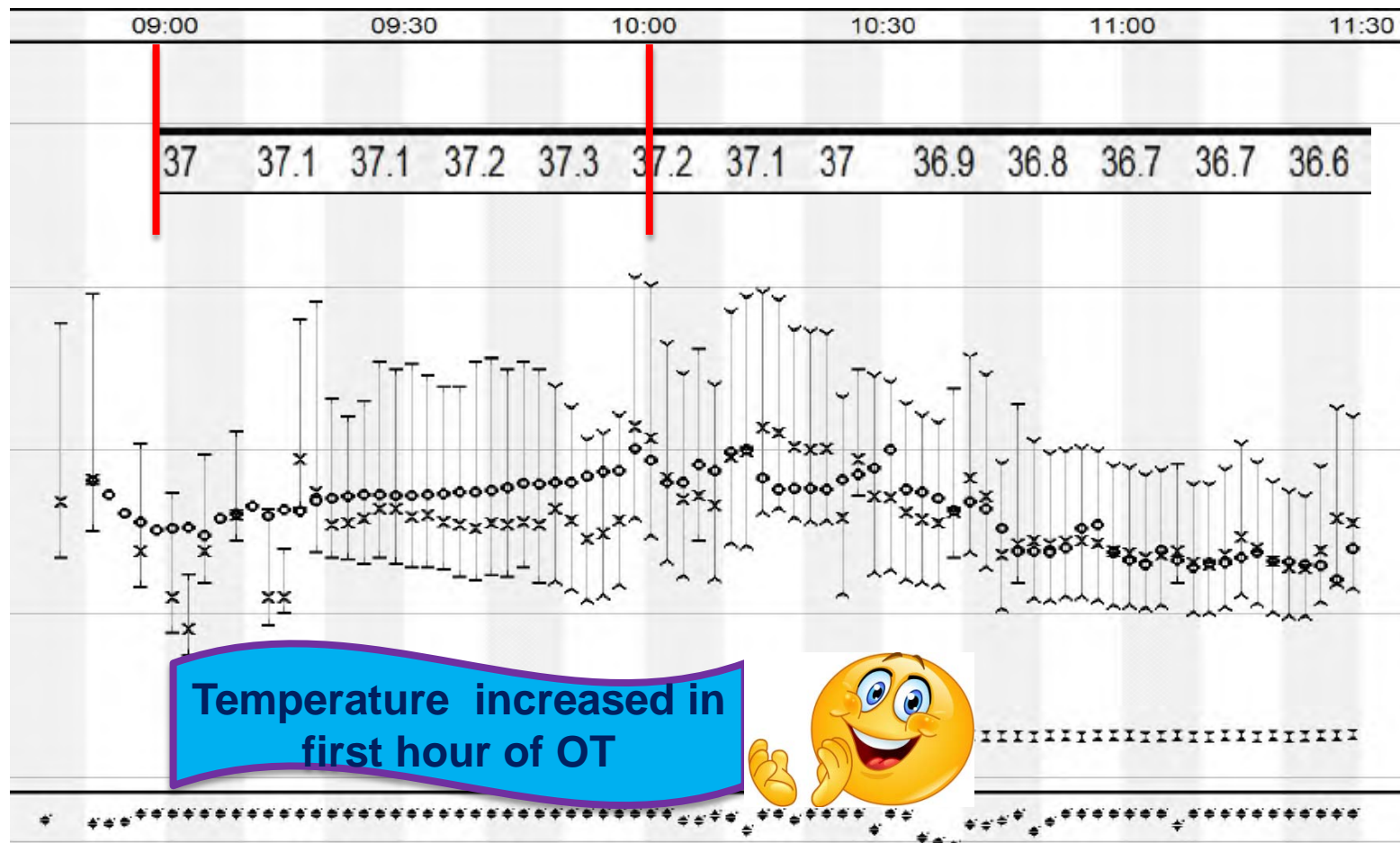


SA/RA cases

➤ Tympanic temperature



Result Sharing



Post-operative in RR

➤ Recovery Room Temperature keep 24°C

If hypothermic

- ✓ recheck at another ear,
- ✓ change machine
- ✓ change operator

RECHECK

- provide active warming immediately
- Recheck temperature later
- report to Anesthetist I/C and record



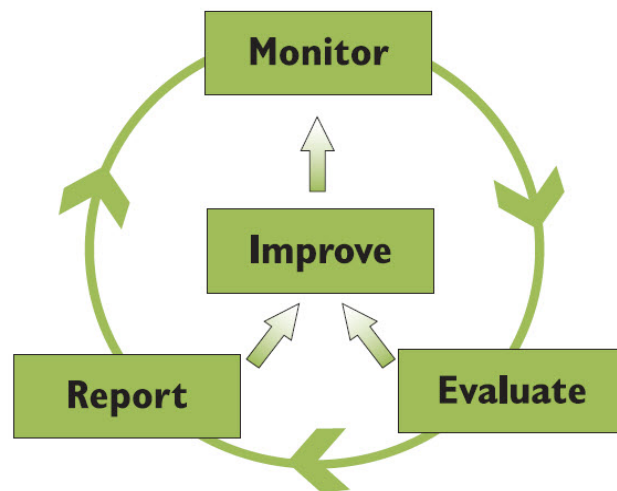
Education and on going monitoring

➤ Staff education



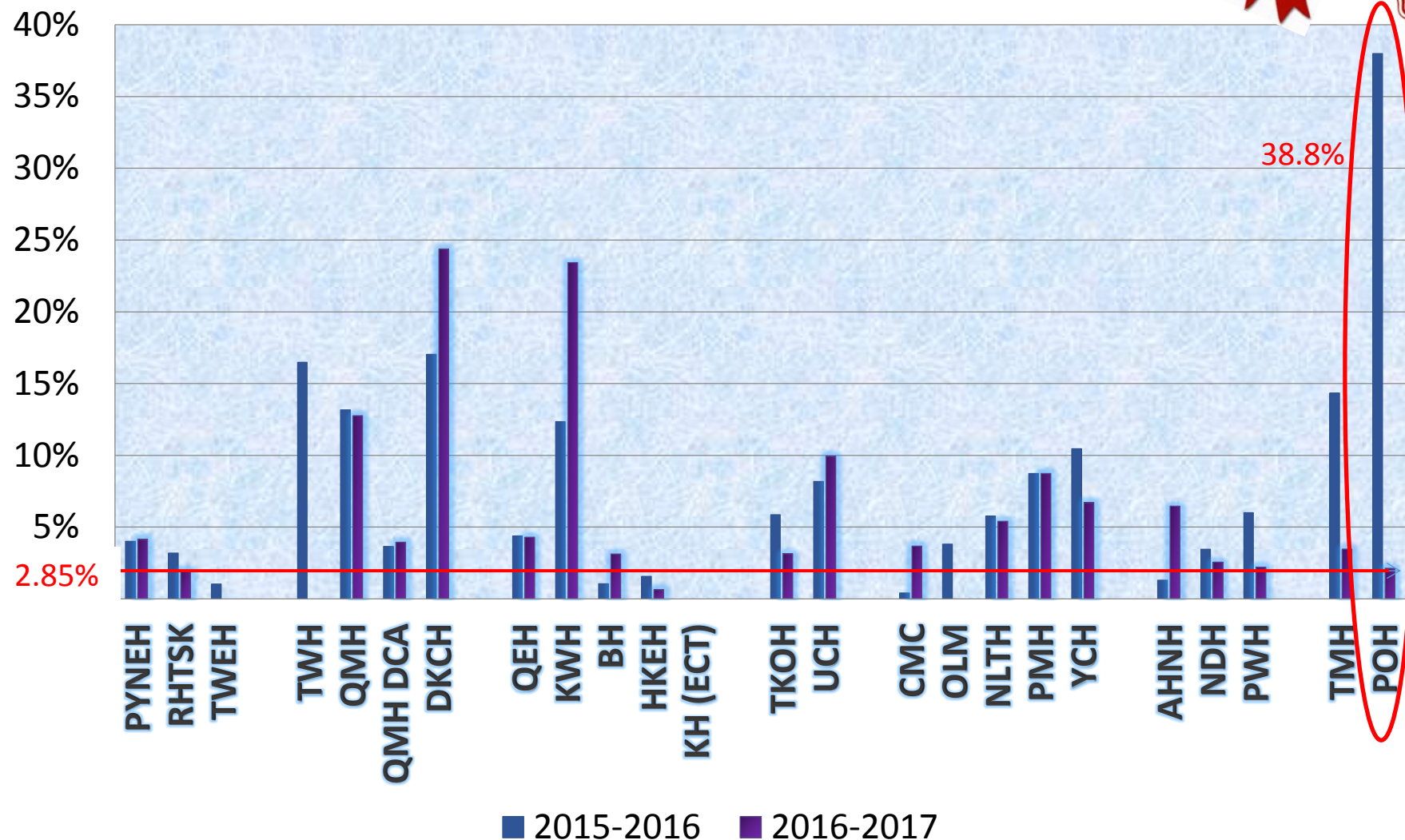
➤ Regulate hypothermia workgroup meeting and audit the result

No monitoring,
no improvement





Key Performance Index



Acknowledgement :

Team Leader: Helen Leung (DOM)

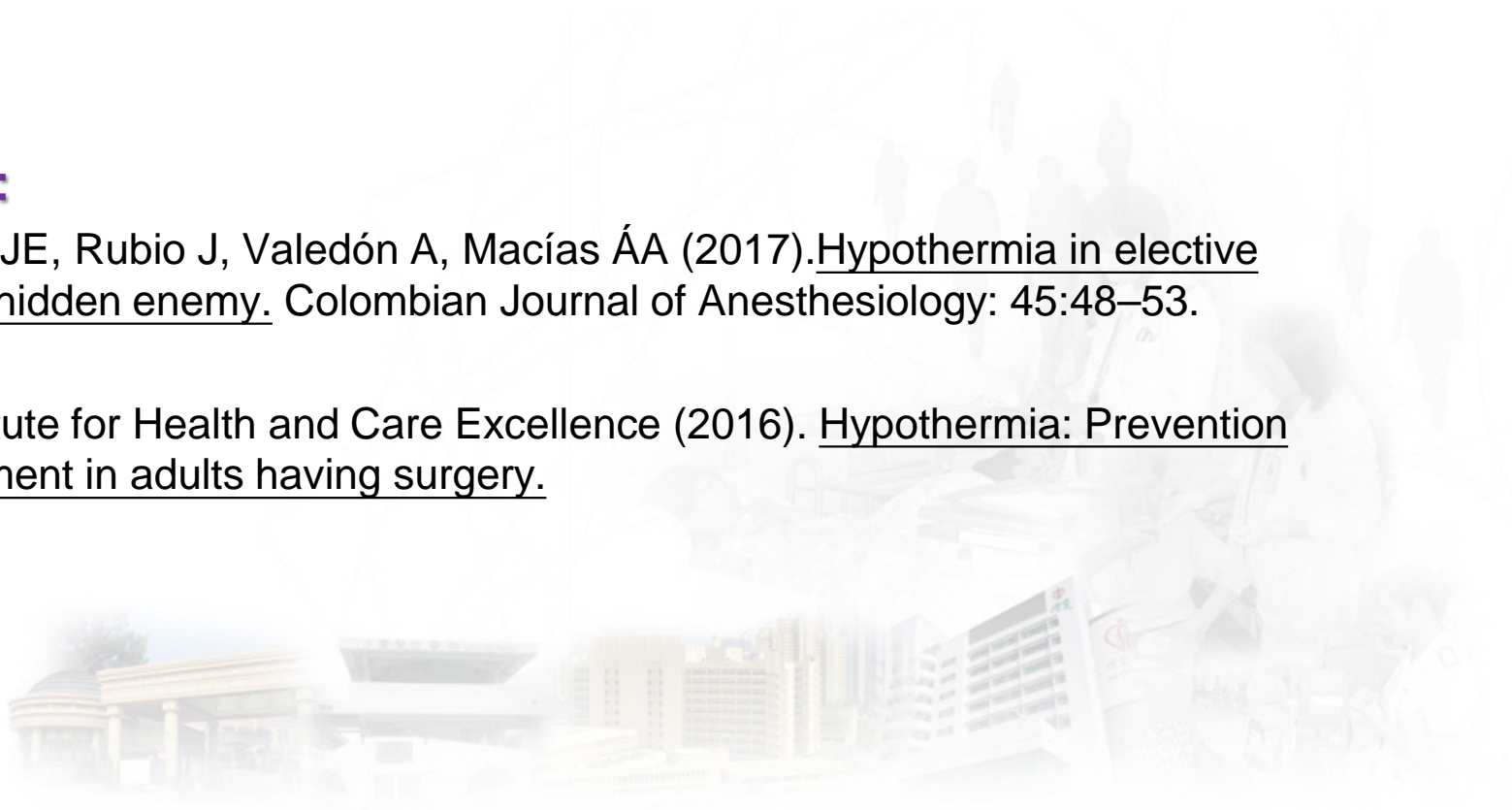
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Yip Wing Ping (RN), Wong Lai Man (RN)

Reference:

Bayter-Marín JE, Rubio J, Valedón A, Macías ÁA (2017). Hypothermia in elective surgery: The hidden enemy. Colombian Journal of Anesthesiology: 45:48–53.

National Institute for Health and Care Excellence (2016). Hypothermia: Prevention and management in adults having surgery.



Thank you...