

# ASSESSMENT OF BODY TEMPERATURE AMONG PATIENTS WITH COGNITIVE DISTURBANCES – AN ETHICAL CHALLENGE

## Background

- Rectal temperature has historically been considered a reference measure in Scandinavia, but it is time consuming and difficult to obtain in certain patients due to refusal and agitation among others
- Rectal measurements entails that the patient needs to accept health care professionals within their intimate space which might be challenged by severe cognitive disturbances following a brain injury.
- However this procedure is frequent among patients because the availability of clinically validated non-invasive body temperature assessment methods is limited.
- In assessing temperature, the accuracy of infrared devices for reflecting changes in core temperature is high and might be an alternative to rectal measurement.

## Goal

- To identify a possible relation between body temperature measured by the tympanic and the rectal thermometer.

## Method

- Parallel measurements of body temperature using the tympanic and the rectal thermometer among 28 patients. Data included 316 measurements with the tympanic thermometer and 290 measurements with the rectal thermometer analyzed by linear regression models individually and on a group level.

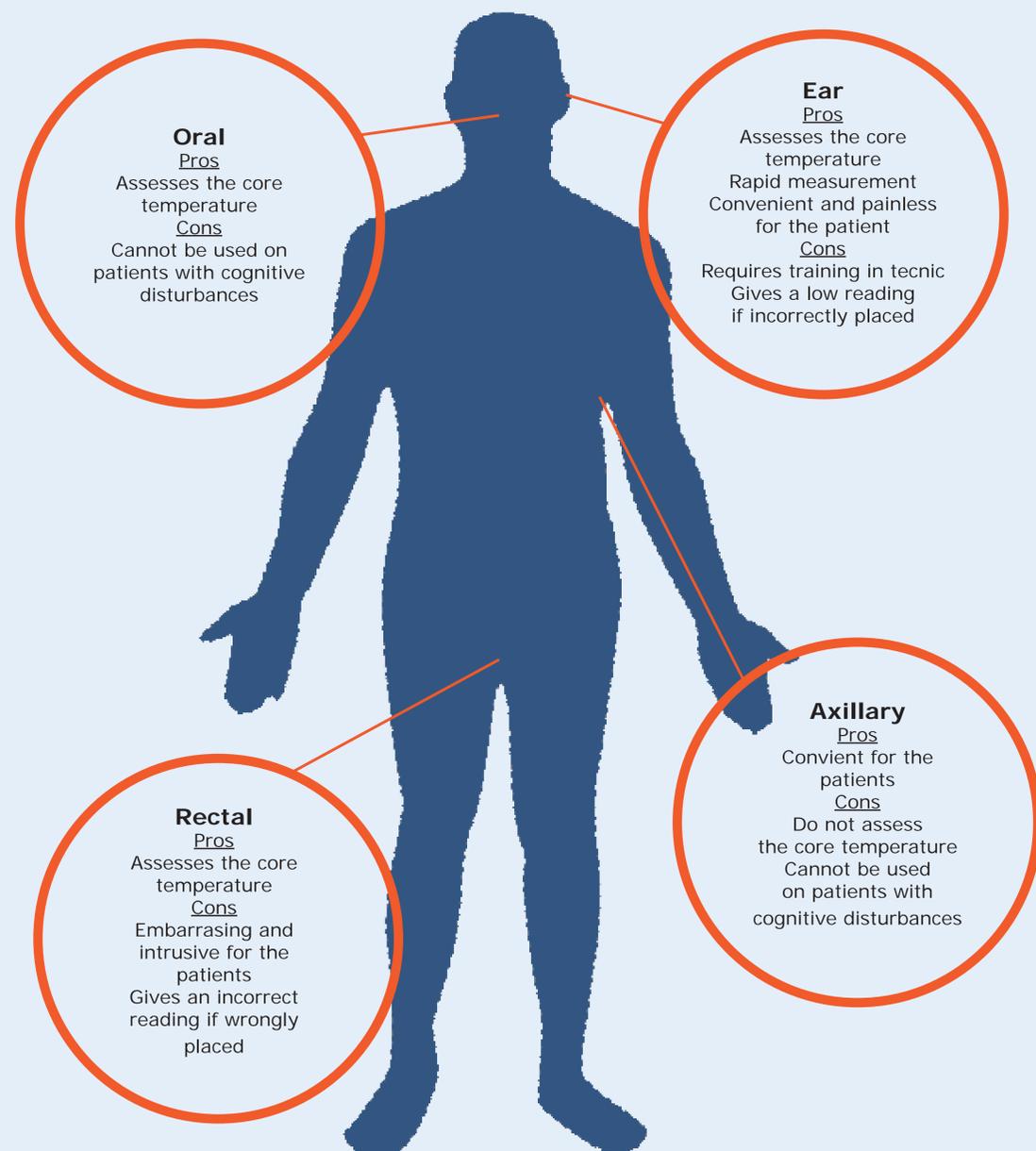
## Results

- A linear relationship between the assessment methods is weak both in individuals and on a group level also when taking age, sex and diurnal variation into consideration.
- Viewed independently, both measuring methods reflect variance in temperature, but ear measurements showed larger variation.

## Conclusion

- The tympanic thermometer appears to be an immediate alternative but not a substitute to the rectal thermometer method among patients with cognitive disturbances.
- Both instruments reflects the core temperature, but the variation in ear measurements was higher.

## Non-invasive body temperature measurement methods



- A temperature should never stand alone but has to be combined to a holistic picture of the patients clinical condition
- The same site of measurement should be used as far as possible
- When measuring body temperature the unadjusted mode should be used without adjusting to another site
- Individual baseline body temperature should as far as possible be noted.

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