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Does infrared temperature reflect core body temperature? A comparative study on infrared temperature from different parts of the body with axillary temperature

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Objective: To determine the limit of agreement between Non-Contact Infrared Temperature (NCIT) from forehead, chest and abdomen with Digital Axillary Temperature (DAT).

Design: Prospective study.

Setting: Neonatal unit of Christian Hospital Chhatarpur, Madhya Pradesh, India (A mission hospital under Emmanuel Hospital Association, New Delhi).

Methods: In this study Non-Contact Infrared Temperature (NCIT) from the forehead, chest and abdomen was compared with Digital Axillary Temperature (DAT) by Bland Altman Plot.

Results: A total of 211 sets of temperature were recorded from neonates admitted in the Division of Neonatology, Christian Hospital Chhatarpur, Madhya Pradesh, India. The DAT agrees well with NCIT chest [mean difference=0.1346, 95% limit of agreement: (0.08455, 0.1846)] as compared to NCIT forehead and abdomen.

Conclusion: As compared to the tradition of using NCIT on the forehead, the author suggests the use of NCIT on the chest as it has more agreement to the core body temperature.

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