BLAZING BLANKETS? EVIDENCE TO SUPPORT INCREASED WARMING CABINET TEMPERATURES

Primary Investigator:  Leanne King, BSN, RN, CPAN
Gaston Memorial Hospital, Gastonia, North Carolina

Co-Investigators:  Faye Clements, MSN, RNC; Patricia Suggs, BSN, RN-BC, PCCN;
Sheila Reagan, BSN, RN, NE-BC; Lisa Wright, RNC;
Sonya Harding, PhD, RN, CCRN, ACNS, BC, NP-C

Evidence is lacking to support limiting warming cabinet temperature settings for warming cotton blankets. Influential agencies providing guidance to accrediting bodies recommended a maximum warming cabinet temperature of 110° recently increased to 130°. This study was designed to answer the question: What is the actual temperature of a blanket warmed to 110° and 150° immediately upon removal from the warmer, at 30 seconds, 60 seconds and with the blanket unfolded?

Warmed blankets are used to provide comfort and thermodynamic regulation. ASPAN Clinical Guidelines recommend passive insulation to promote normothermia. Prior to 2005, warming cabinets were heated to the maximum temperatures recommended by manufacturers. In 2005, the ECRI issued a recommendation to lower cabinet temperatures to 110°F to prevent patient burns based on a 1947 study where tissue was exposed to constant temperatures.

The quasi–experimental study was conducted on 3 inpatient units using identical warming cabinets. Temperature measurement of blankets was conducted using the same procedure and equipment. All temperatures were measured in degrees Fahrenheit. Group A sample size was 136 blankets from a cabinet set at 110° and Group B was 134 blankets from a cabinet set at 150°. Temperatures measurements using an infrared thermometer were recorded for each blanket immediately upon removal from the cabinet, at 30 seconds, 60 seconds, and with the blanket unfolded. Analysis of data was conducted using SPSS 17.

Group A and B demonstrated the highest temperature immediately upon removal from the warmer. Group B had the highest recorded temperature of 142° with 30 seconds temperature of 130.3°, 60 seconds of 120° and unfolded of 101.5°. The mean temperature of Group A was 101° (SD 4.04). The mean temperature of Group B was 128°, (SD 6.56). The actual infrared cabinet temperature was consistently lower than the setting on the cabinet dial.

The highest temperature of a blanket in the study group was 142° when heated to 150° as per the manufacturer’s maximum temperature recommendation. Blanket temperature decreased exponentially with each subsequent recording. Based on the findings of this study, our warming cabinet temperatures have been increased to maximum recommended settings from the manufacturer.