

Rapid Response 4

Additional information to support the NPSA Rapid Response issued on 26 November 2007

Managing the Fire Hazard with Paraffin Based Skin Products on Dressings and Clothing

Background

Paraffin based products, for example White Soft Paraffin, White Soft Paraffin plus 50% Liquid Paraffin or Emulsifying ointment, in contact with dressings and clothing is easily ignited by a naked flame. The risk will be greater when these preparations are applied to large areas of the body, and clothing or dressings become soaked with the ointment. Patients should be told to keep away from fire, flames or other potential cause of ignition, and not to smoke when using these preparations. The fire risk should be considered when patients in any setting are dispensed, or treated with, large quantities (100g or more) of paraffin based products

The NPSA is aware of a fatal incident reported to the National Reporting & Learning System (NRLS) in which a paraffin based skin product, which was in contact with a patient's dressings and clothing, was ignited by a naked flame or cigarette. In addition, a letter¹ in the British Journal of Dermatology in 2001 related a similar incident.

Following this incident the NPSA commissioned the Health and Safety Executive to undertake fire hazard testing with White Soft Paraffin on a variety of bandages, dressings and clothing.

Main Findings

The main findings of this report were as follows:

1. Where thermal contact between fabrics and underlying skin is not good, fire may progress rapidly. Circumstances that lead to such a reduction in thermal contact include loose, over-stretched, rucked or multi-layer dressings or fabrics. Typically paraffin contamination leads to a more rapidly growing fire, which burns much more intensely and is harder to extinguish.
2. Some loosely fitting garments (and constituent fabrics) burn rapidly and intensely. A fire in these garments alone could cause serious or fatal burns. Paraffin contamination generally increases the rate of fire spread. The intensity of burning and resilience of flames is greatly increased.
3. A test on a dressing gown illustrates the fact that small areas of contamination may markedly increase the risks associated with an ignition.

Recommendations from the NPSA include the following:

General Advice

- Patients should be given information that includes advice about the potential fire risks of smoking (or being near to people who are smoking), or exposure to any open flame or other potential cause of ignition during treatment. In hospital units initiating therapy, this advice should be given in both verbal and written form.
- Patients and their families should be provided with safety advice about regularly changing clothing or bedding impregnated with paraffin based products (preferably

on a daily basis), as the paraffin soaks in to the fabrics and can potentially be a fire hazard. Chairs or seating may also have the potential to become contaminated.

- This information should be given on the first occasion that such treatment is prescribed, dispensed or administered by a healthcare professional and a record kept confirming that such advice has been given. A check should be made on subsequent occasions that the advice has been received previously and understood
- Patients should be encouraged to give the information about their treatment, and any advice they have received, to their relatives.
- The smoking status of patients should be established before commencing treatment. Patients who do smoke should be offered practical help and advice and continued support to stop smoking.

For Hospital Inpatients

- Fire safety information should be displayed prominently in every ward area where patients may be treated with significant quantities of paraffin based products.
- If, against advice, a patient intends to go off the ward to smoke they should be informed of the risk and advised to wear a thick outer covering that has not been contaminated with paraffin based products.
- Relatives or carers should be informed if a patient does not comply with safety advice and instructions during treatment involving significant quantities of paraffin based products.

New BNF Wording

New Wording in the September 2007 (edition 54) of the British National Formulary (BNF) reads as follows:

Fire hazard Emulsifying ointment or 50% Liquid Paraffin and 50% White Soft Paraffin Ointment in contact with dressings and clothing is easily ignited by a naked flame. The risk will be greater when these preparations are applied to large areas of the body, and clothing or dressings become soaked with the ointment. Patients should be told to keep away from fire and flames, and not to smoke when using these preparations. The fire risk should be considered when using large quantities of any paraffin-based emollient.

Additional Material

The following material is also available at www.npsa.nhs.uk/health/alerts

- Rapid Response Report no. 5 - Fire Hazard with paraffin based skin products on dressings and clothing
- Information for healthcare staff
- Fire Hazard Poster
- Example Patient Information Leaflet
- The full Health and Safety Executive report, and images of the testing

ⁱ Allen S.J.R. and Tidman M.J. (2001) British Journal of Dermatology. **144**, pp.649