



Patient Safety Alert

Risk of death and severe harm from ingestion of superabsorbent polymer gel granules

5 July 2017

Alert reference number: NHS/PSA/W/2017/003

Warning Alert

Superabsorbent polymer gel granules¹ are widely used in health and social care, typically as small sachets placed in urine and vomit bowls. On contact with liquid, the sachet opens and the granules almost instantaneously absorb, expand and solidify the liquid. This can protect patients' bedding and clothing for their comfort and dignity, and reduce the risk of spills onto floors to prevent patients and staff slipping. While their use is not required in routine infection control processes, they may help to manage bodily fluids from patients with some highly contagious conditions being managed in infectious disease units.^{2,3}

The gel granules are not toxic but if put in the mouth they will expand on contact with saliva, risking airway obstruction. We were made aware of a death via a coroner's Regulation 28: Prevention of Future Deaths report where a patient died of asphyxiation after ingesting a sachet left in an empty urine bottle in their room. A search of the National Reporting and Learning System (NRLS) identified 15 similar non-fatal incidents in acute, community and mental healthcare settings over a recent six-year period. Reports commonly involve confused patients, who may have mistaken the sachets for sweets, or sugar or salt packets, but some describe attempts of deliberate self-harm.

Incident reports describe patients tearing open sachets and tipping the contents onto food and drinks and then ingesting them, or putting whole sachets into their mouth. For example:

"Patient found with substance that appeared as sugar in mouth. Staff realised it was expanding agent used in urinal bottles. Some product being spat out by patient, but not able to swallow..... 999 ambulance called and transfer to A&E due to nature of expansion and asphyxiation risk. Unknown where patient accessed the sachet."

While safety advice following previous fatalities⁴ focused on the need for individual risk assessment, recent incidents suggest this is insufficient to protect patients, as sachets intended for use by one patient have been picked up by others and many inpatient units have patients who are confused or at risk of self-harm.

This alert encourages healthcare providers to review their overall approach to using these products, including consideration of whether alternative products less likely to be ingested can be adopted¹ and/or whether gel granules should be reserved for exceptional² rather than routine use, and securely stored until those circumstances arise.⁵

Actions

Who: Providers of NHS funded care, including acute and community hospitals, mental health units, learning disability services and ambulance services

When: To commence immediately and be completed no later than 16 August 2017

- 1** Identify if super absorbent polymer gel granules are used in your organisation
- 2** Bring this alert to the attention of anyone in the your organisation with responsibilities for purchasing, policy and training related to superabsorbent polymer gel granules
- 3** Consider if immediate action is needed locally, and ensure that an action plan is underway to reduce the risk to vulnerable patients
- 4** Communicate your organisation's plan for managing those risks and this alert's key messages to all relevant staff

Sharing resources and examples of work

If there are any resources or examples of work developed in relation to this alert you think would be useful to others, please share them with us by emailing patientsafety.enquiries@nhs.net

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Technical notes

Patient safety incident reporting

We searched the NRLS for incidents occurring on or after 24 February 2011 if reported by 24 February 2017 using the following terms in the free text: [%vernagel% or %crystal% or %granule% or %sachet% or %safety%] AND [%swallow% or %ingest%] AND [%solid% or %absorb% or %gel%]. This yielded 15 relevant reports, one resulting in severe harm, three low harm and 11 no harm.

References and notes

1. Brands of superabsorbent polymer gel granules available through NHS Supplies in sachet form and as loose granules are Vernagel (Vernacare) and SafetyGel. Brands of superabsorbent polymer gel granules available through NHS Supplies as pads (mats) are AbsorbeZe (ProSys)
2. Department of Health, Public Health England Advisory Committee on Dangerous Pathogens 2014 Management of Hazard Group 4 viral haemorrhagic fevers and similar human infectious diseases of high consequence www.gov.uk/government/publications/viral-haemorrhagic-fever-algorithm-and-guidance-on-management-of-patients
3. Consultation with Public Health England, the Health and Safety Executive and infection prevention experts confirmed the products are only suggested as helpful in the management of Hazard Group Four viral haemorrhagic fevers and similar human infectious diseases of high consequence in infectious disease units but are not required for routine infection control purposes
4. National Patient Safety Agency Signal: Risk of harm from ingestion of Vernagel. Reference number 1324 Issue date 29 September 2011. www.nrls.npsa.nhs.uk/resources/?entryid45=132835
5. These products are not covered by Control of Substances Hazardous to Health (CoSHH) regulations but providers of NHS funded care may wish to consider a local addition to their inventory for safe storage as an additional safeguard

Stakeholder engagement

- Public Health England (National Infection Service)
- Health and Safety Executive
- National Patient Safety Response Advisory Panel (for a list of members and organisations represented on the panel, see improvement.nhs.uk/resources/patient-safety-alerts/)

Advice for Central Alerting System officers and risk managers

This alert asks for a systematic approach to deciding how your organisation uses superabsorbent polymer gel granules, and therefore needs co-ordinated implementation rather than separate action by individual teams or departments. Seek advice from senior nurses and/or your infection control team, who will be able to identify the key individuals needed to develop a local organisation-wide action plan.