Medical Adhesive Related Skin Injury (MARSI) in Vascular Access Devices

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MARSI
MARSI is an occurrence in which erythema and/or other manifestation of cutaneous abnormality persists 30 minutes or more after removal of adhesive, (McNichol et al 2013). This is seen as one or more of the following:

- Skin Stripping
- Tension Injury or blister
- Skin Tear
- Irritant contact dermatitis
- Allergic dermatitis
- Maceration
- Folliculitis

Introduction
Establishing vascular access in patients and preventing infection, both at insertion and during on-going care is considered a priority however the maintenance of optimal skin integrity is often a distant and lesser secondary consideration with minimal evidence surrounding this subject. Skin can react to types of dressings/adhesives, in the securement of central venous catheters and the antiseptic skin decontamination solutions.

Skin reactions are not limited to vascular access devices, however the precious nature of long term vascular access devices makes this a very important and yet largely un-recognised area.

Evidence in our organisation suggests that skin reaction may be iatrogenic as a result of the symbiosis associated with the cleaning and/or securement of vascular access devices, as opposed to the dressing alone.

Methodology
Collaboratively the Vascular Access & Tissue Viability teams:

- systematically reviewed the literature
- explored anecdotal experience and collected data
- reviewed case studies & accompanying images to investigate & determine possible reasons for skin reactions seen
- devised interventions to reduce this phenomena (the revision of guidelines, educational material & algorithms)
- Agreed treatment for confirmed allergic reactions, where required.

The algorithms developed following these collective findings considers all of these elements, & includes skin decontamination, skin protection, what to do in the event of a known skin sensitivity or allergy, and the appropriate referral process for specialised advice and support.

Conclusion
Through the development of algorithms to incorporate the prevention and management of MARSI in relationship to vascular access devices we have seen an increase in MARSI. Previously this type of skin injury was unrecognised and/or diagnosed as an allergy. Therefore with an increase in staff knowledge and awareness of MARSI patients are referred for specialised clinical review. Our challenge now is to reduce the incidence of MARSI and calculate a rate of MARSI/catheter days.