

## ALERT: Additional Safeguards Required for New Succinylcholine Product, a Neuromuscular Blocking (Paralyzing) Agent

Neuromuscular blocking agents, also known as paralyzing agents, are high-alert medications. Serious injuries and deaths have occurred with substitution errors involving these drugs.<sup>1-5</sup> Over the past 10 years, efforts by Canadian drug manufacturers have resulted in the development of a standardized warning, which is printed on the vial cap and/or vial ferrule,<sup>6</sup> as shown in Figure 1. These efforts have been well received by stakeholders. The United States Pharmacopeial (USP) Convention now includes this requirement for neuromuscular blocking agents within their standards for packaging and labelling of injectables.<sup>7,8</sup>



**Figure 1:** Example of the standardized warning printed on both the cap (left) and ferrule (right) of a vial of succinylcholine (Quelicin) manufactured by Hospira Canada. The warning is printed in white lettering on a red background.

Recently, however, ISMP Canada has learned about a new product without the warning on the cap or ferrule. This bulletin is intended to serve as an alert to Canadian hospitals and practitioners.

The new product is a formulation of succinylcholine manufactured by Alveda Pharma, which has recently come onto the Canadian market (Figure 2). This new product is expected to alleviate the current shortage of succinylcholine.

As described in a report to ISMP Canada, Canadian facilities using this product may be switching from a product that carries a prominent warning on the cap and ferrule (Figure 1) to one that does not (Figure 2).



**Figure 2:** Vial and external packaging for new succinylcholine product manufactured by Alveda Pharma.

Since institution of the warning on previously available products, practitioners who inadvertently select a neuromuscular blocking agent in place of another drug have been presented with a prominent warning in a unique location on the drug packaging, at a critical point in the medication-use process, i.e., when the practitioner is removing the cap and withdrawing the medication from the vial. Presence of the warning on the cap and ferrule has been documented to prevent the inadvertent administration of succinylcholine.<sup>9</sup> Now that practitioners are familiar with this warning, switching to a neuromuscular blocking agent that lacks the warning on the cap and ferrule could lead to confusion and substitution errors.

ISMP Canada has contacted Alveda Pharma, and the company is exploring the feasibility of adding the standardized warning to the cap and ferrule of its succinylcholine product.

In the meantime, to reduce the risk of substitution errors, ISMP Canada recommends that an auxiliary label (see example in Figure 3) be added to the Alveda Pharma product, either by the manufacturer or by individual hospital pharmacies. In addition, facilities and practitioners should continue to implement other applicable safeguards for neuromuscular blocking agents, as recommended previously,<sup>1-5</sup> including segregating these drugs and limiting stock to patient care areas where these drugs are required.

**WARNING: Paralyzing Agent  
Causes Respiratory Arrest**

**Figure 3:** Example of an auxiliary warning.

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(i) through the website: [http://www.ismp-canada.org/err\\_report.htm](http://www.ismp-canada.org/err_report.htm) or (ii) by phone: 416-733-3131 or toll free: 1-866-544-7672.

ISMP Canada can also be contacted by e-mail: [cmirps@ismp-canada.org](mailto:cmirps@ismp-canada.org). ISMP Canada guarantees confidentiality and security of information received, and respects the wishes of the reporter as to the level of detail to be included in publications.

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