



### Child and Youth Health Manual

Title		
Medication Administration: Use of Antidotes for the Management of Extravasation		
Version: June 2011		
It is difficult to be certain that injection of antidotes into the area of extravasation is of benefit and reports are conflicting. Most small extravasations do not result in serious problems without injection of antidotes, so that injection of specific antidotes should likely be restricted to larger extravasations (>1-2 mL).		
<b>The use of an antidote requires a physician's order. Antidotes, other than dimethylsulfoxide (DMSO) and dexrazoxane are to be administered by a physician.</b>		
Extravasated Drug	Suggested Antidote	Method of Administration
daunorubicin doxorubicin epirubicin mitomycin	dimethylsulfoxide (DMSO) 99% <b>topical</b> solution (4 drops per 10 cm <sup>2</sup> area)	Apply to an area twice that affected by the extravasation, allow to air dry, do not cover, repeat 4 times per day for at least 7 days.  <b>Do not use DMSO in conjunction with dexrazoxane. This combination may increase tissue damage.</b>
	dexrazoxane <b>intravenous (IV)</b> daily for 3 days	<ol style="list-style-type: none"> <li>1. Dilute reconstituted dexrazoxane with Dextrose 5% or 0.9% sodium chloride to a final concentration of 1.3 to 5 mg/mL.</li> <li>2. Administer daily over 1-2 hours 24 hours apart for 3 consecutive days: Days 1 &amp; 2: 1000 mg/m<sup>2</sup>/day (max 2000 mg) Day 3: 500 mg/m<sup>2</sup> (max 1000 mg)</li> <li>3. Administer as soon as possible and within 6 hours of extravasation.</li> <li>4. Remove cooling packs (if used) at least 15 minutes prior to start of dexrazoxane infusion.</li> <li>5. <b>Do not use DMSO in conjunction with dexrazoxane. This combination may increase tissue damage.</b></li> <li>6. Monitor for neutropenia, thrombocytopenia.</li> </ol>
vinblastine vincristine vindesine vinorelbine aminophylline calcium chloride (> 10%) cloxacillin dextrose (≥ 10%) magnesium sulfate (>20%) mannitol	hyaluronidase 1500 units <b>subcutaneous (SC) or intradermal</b> reconstituted and further diluted to 150 unit/mL concentration  <b>DO NOT ADMINISTER INTRAVENOUSLY.</b>  hyaluronidase (Hyalase®) is available through Health Canada Special	<b>Administration by physician only.</b> <ol style="list-style-type: none"> <li>1. Reconstitute hyaluronidase 1500 U vial with 1 mL normal saline (NS).</li> <li>2. Dilute to 150 U/mL: add 1 mL of 1500 U/mL hyaluronidase to 9 mL NS.</li> <li>3. Use four or five 1 mL syringes and draw up 0.2 mL into each syringe.</li> <li>4. Use immediately following reconstitution.</li> <li>5. Using a 27-30 gauge needle, inject 0.1-0.2 mL subcutaneously or intradermally in 4 to 5 sites around the circumference of</li> </ol>

**NOTE:** This is a controlled document. A printed copy may not reflect the current, electronic version on the C&W Intranet. Any documents appearing in paper form should always be checked against the electronic version prior to use. The electronic version is always the current version. This Clinical Practice Support Document has been prepared as a guide to assist and support practice for staff working at BCCH/SHHC. It is not a substitute for proper training, experience and the exercise of professional judgment. Please do not distribute this document outside of C&W without the approval of the Office of Professional Practice.

Supplementary data for Paquette V, McGloin R, Northway T, DeZorzi P, Singh A, Carr R. Describing intravenous extravasation in children (DIVE study). *Can J Hosp Pharm* 2011;64(5):340-345.

FDA Review and Approval for the Treatment of Accidental Extravasation Following Intravenous Anthracycline Chemotherapy. *The Oncologist*. 13:445-450.

Llinares, ME, Bermudez, M and Fuster, JL. (2005). Toxicity to Topical Dimethyl Sulfoxide in a Pediatric Patient with Anthracycline Extravasation. *Pediatric Hematology and Oncology*. 22(1):49-52.

Mouridsen, HT, Langer, SW, Buter, J, Eidtmann, H, Rosti, G, de Wit, M, Knoblauch, P, Rasmussen, A, Dahlstrøm, K, Jensen PB, and Giaccone, G. (2007). Treatment of anthracycline extravasation with Savene (dexrazoxane): results from two prospective clinical multicentre studies. *Annals of Oncology*. 18:546-550.

Oestreicher, P. (2007). Can You Recognize the Risk Factors for Vesicant Extravasation? *ONS Connect*, January 2007: 22-23.

Sauerland, C, Engelking, C, Wickham, R and Corbi, D. (2006). Vesicant Extravasation Part I: Mechanisms, Pathogenesis, and Nursing Care to Reduce Risk. *Oncology Nursing Forum*. 33(6):1134-1141.

Schulmeister, L. (2007). Extravasation Management. *Seminars in Oncology Nursing*. 23(3):184-190.

Schulmeister, L and Camp-Sorrell, D. (2000). Chemotherapy Extravasation from Implanted Ports. *Oncology Nursing Forum*. 27(3):531-538.

Schulmeister, L. (2008). Managing Vesicant Extravasations. *The Oncologist*. 13:284-288.

Seivers, TD and Andam, R. (2004). Chemotherapy Administration and Immediate Post-administration Issues in The Pediatric Chemotherapy and Biotherapy Curriculum, Kline, NE ed. Association of Pediatric Oncology Nurses, Illinois, USA. pp 86-90.

Wickham, R, Engelking, C, Sauerland, C and Corbi, D. (2006). Vesicant Extravasation Part II: Evidence-based Management and Continuing Controversies. *Oncology Nursing Forum*. 33(6):1143-1150.

FDA Review and Approval for the Treatment of Accidental Extravasation Following Intravenous Anthracycline Chemotherapy. *The Oncologist*. 13:445-450.

Llinares, ME, Bermudez, M and Fuster, JL. (2005). Toxicity to Topical Dimethyl Sulfoxide in a Pediatric Patient with Anthracycline Extravasation. *Pediatric Hematology and Oncology*. 22(1):49-52.

Mouridsen, HT, Langer, SW, Buter, J, Eidtmann, H, Rosti, G, de Wit, M, Knoblauch, P, Rasmussen, A, Dahlstrøm, K, Jensen PB, and Giaccone, G. (2007). Treatment of anthracycline extravasation with Savene (dexrazoxane): results from two prospective clinical multicentre studies. *Annals of Oncology*. 18:546-550.

Oestreicher, P. (2007). Can You Recognize the Risk Factors for Vesicant Extravasation? *ONS Connect*, January 2007: 22-23.

Sauerland, C, Engelking, C, Wickham, R and Corbi, D. (2006). Vesicant Extravasation Part I: Mechanisms, Pathogenesis, and Nursing Care to Reduce Risk. *Oncology Nursing Forum*. 33(6):1134-1141.

Schulmeister, L. (2007). Extravasation Management. *Seminars in Oncology Nursing*. 23(3):184-190.

Schulmeister, L and Camp-Sorrell, D. (2000). Chemotherapy Extravasation from Implanted Ports. *Oncology Nursing Forum*. 27(3):531-538.

Schulmeister, L. (2008). Managing Vesicant Extravasations. *The Oncologist*. 13:284-288.

Seivers, TD and Andam, R. (2004). Chemotherapy Administration and Immediate Post-administration Issues in The Pediatric Chemotherapy and Biotherapy Curriculum, Kline, NE ed. Association of Pediatric Oncology Nurses, Illinois, USA. pp 86-90.

Wickham, R, Engelking, C, Sauerland, C and Corbi, D. (2006). Vesicant Extravasation Part II: Evidence-based Management and Continuing Controversies. *Oncology Nursing Forum*. 33(6):1143-1150.

Supplementary data for Paquette V, McGloin R, Northway T, DeZorzi P, Singh A, Carr R. Describing intravenous extravasation in children (DIVE study). *Can J Hosp Pharm* 2011;64(5):340-345.