Cancer Care Alberta

To: Emergency Department Physician/Nurse
RE: **BISPECIFIC ANTIBODIES (BISPECIFIC T-CELL ENGAGERS)**

From: Dr. _____ (patient's oncologist) at _____
_____ (cancer centre).

This patient has received cancer treatment using a Bispecific Antibodies called:
_____.

Complication of bispecific antibodies are most common in the first 1–2 months after treatment and include Cytokine Release Syndrome (CRS), Immune Effector Cell Associated Neurotoxicity Syndrome (ICANS), or complications of infection and sepsis due to cytopenia and immunosuppression.

Evaluation and Treatment:

1. Consult early with attending physician or on-call oncologist or hematologist.
2. Bispecific antibodies can mimic infection, sepsis, stroke, encephalitis, PE, acute coronary syndrome, and CHF. Maintain a broad differential and rule out alternative diagnosis before assuming symptoms are related to bispecific antibody.
3. Resuscitation with IV fluids +/- vasopressors and broad-spectrum antibiotics for unstable patient or those with suspected infection should not be delayed.

Complication	Sign and symptom	Treatment Recommendations
Cytokine Release Syndrome (CRS) Systemic inflammatory condition.	• Fever • Headache • Myalgias • In severe cases: hypotension, capillary leak, hypoxia, and other end organ damage	• Fever alone can usually be managed with acetaminophen and infection work-up • If hypotension or hypoxia is present or if fever is unresponsive to symptomatic treatment give Dexamethasone 10mg IV and/or tocilizumab (8mg/kg IV, max dose 800 mg) • Fluid resuscitation beyond 2 litres puts CRS patients at risk of pulmonary edema. Early initiation of vasopressors is critical
Immune Effector Cell Associated Neurotoxicity Syndrome (ICANS)	• Vary from mild (headache) to severe (seizures, coma, cerebral edema). • Other symptoms: tremor, dysgraphia, difficulty with naming, impaired attention, headache and lethargy.	• Evaluate symptoms with neuroimaging +/- lumbar puncture if infection is suspected. • Dexamethasone 10mg IV is preferred first-line therapy for neurotoxicity. • Tocilizumab should only be administered for neurotoxicity that develops concurrently with CRS.

For complete recommendations and evidence, access the full guideline at:

www.ahs.ca/guru >Hematology/Lymphoma > Lymphoma > VII. Prevention and Management of Toxicities of Bispecific Antibodies in Lymphoma

CONTACT INFORMATION:

Daytime Weekdays	
Calgary (Arthur Child)	Call patient's oncologist/hematologist as listed above directly or call 587-231-3131 and ask to speak to the patient's oncologist/ hematologist. **After hours, weekends and holidays** call 587-231-3100, press 0, and request the on-call oncologist/hematologist, or use ROCA
Edmonton (Cross Cancer Institute)	780-432-8771 **After hours, weekends and holidays** ask to speak to the medical oncologist on call.
Grande Prairie (Grande Prairie Cancer Centre)	825-412-4200
Lethbridge (Jack Ady Cancer Centre)	403-388-6802
Medicine Hat (Margery E. Yuill Cancer Centre)	403-529-8817
Red Deer (Central Alberta Cancer Centre)	403-343-4526
After Hours	
RAAPID North at 1-800-282-9911	
RAAPID South at 1-800-661-1700	

Thank you for your assistance in the care of this patient