

**DRUG NAME: Azacitidine****SYNONYM(S):****COMMON TRADE NAME(S):** VIDAZA®**CLASSIFICATION:** Miscellaneous*Special pediatric considerations are noted when applicable, otherwise adult provisions apply.***MECHANISM OF ACTION:**

Azacitidine is a pyrimidine nucleoside analogue that inhibits DNA, RNA and protein synthesis, incorporates into RNA and DNA, and activates DNA damage pathways. Non-proliferating cells are relatively insensitive to azacitidine. Incorporation of azacitidine into DNA results in the inactivation of DNA methyltransferases, leading to hypomethylation of DNA. DNA hypomethylation of methylated genes may restore normal function to genes that are critical for differentiation and proliferation.<sup>1</sup>

**USES:****Primary uses:**

\*Myelodysplastic syndrome

\*Acute myeloid leukemia

\*Health Canada approved indication

**Other uses:****SPECIAL PRECAUTIONS:**

Azacitidine should be used with caution in patients with known hypersensitivity to azacitidine or to any ingredient in the formulation.<sup>2</sup>

Azacitidine is contraindicated in the presence of advanced malignant hepatic tumors.<sup>1</sup>

**SIDE EFFECTS:**

The table includes adverse events that presented during drug treatment but may not necessarily have a causal relationship with the drug. Because clinical trials are conducted under very specific conditions, the adverse event rates observed may not reflect the rates observed in clinical practice. Adverse events are generally included if they were reported in more than 1% of patients in the product monograph or pivotal trials, and/or determined to be clinically important. When placebo-controlled trials are available, adverse events are included if the incidence is  $\geq 5\%$  higher in the treatment group.

ORGAN SITE	SIDE EFFECT
Clinically important side effects are in <b>bold, italics</b>	
allergy/immunology	hypersensitivity reaction (<1%)
blood/bone marrow/ febrile neutropenia	anemia (51-70%, severe 14%); mean time to nadir is 15-16 days <sup>3</sup>
	bone marrow failure (1-5%)
	febrile neutropenia (14-16%, severe 13%)
	leukopenia (18-48%, severe 15%); mean time to nadir is 15-16 days <sup>3</sup>
	<b>neutropenia (32-66%, severe 61%); mean time to nadir is 15-16 days<sup>3</sup></b>

ORGAN SITE	SIDE EFFECT
Clinically important side effects are in <b><i>bold, italics</i></b>	
	pancytopenia (5%); mean time to nadir is 15-16 days <sup>3</sup>
	<b><i>thrombocytopenia (66-70%, severe 58%)</i></b> ; mean time to nadir is 15-16 days <sup>3</sup>
cardiovascular (arrhythmia)	atrial fibrillation (<1%)
cardiovascular (general)	chest pain (16%)
coagulation	pulmonary embolism (<1%)
constitutional symptoms	fatigue/lethargy/malaise (up to 14%, severe 3%)
	pyrexia (30-52%, severe 5%)
	weight loss (8%, severe <1%)
dermatology/skin	<i>extravasation hazard: non-vesicant</i>
	alopecia (1-5%)
	ecchymosis (31%)
	erythema (17%)
	injection site reactions including erythema (up to 43%, severe 5%)
	pruritus (12%)
	rash (10-14%)
gastrointestinal	<i>emetogenic potential: low-moderate</i> <sup>4</sup>
	abdominal pain/tenderness (12%, severe 1-4%)
	anorexia (21%)
	constipation (34-50%)
	diarrhea (36%)
	nausea (48-71%, severe 2%)
	stomatitis (8%)
	vomiting (27-54%)
hemorrhage	hemorrhage, not specified (1-5%)
	petechiae (11-24%, severe 1%)
hepatobiliary/pancreas	hepatitis (<1%)
infection	nasopharyngitis (15%)
	neutropenic sepsis (2%)
	pneumonia (11%)
	upper respiratory tract infection (13%)
musculoskeletal	arthralgia (22%)
	myalgia (16%)
neurology	dizziness (19%)
	headache (22%)
	seizure (<1%)

ORGAN SITE	SIDE EFFECT
Clinically important side effects are in <b><i>bold, italics</i></b>	
psychiatric disorders	anxiety (13%)
	insomnia (11%)
pulmonary	dyspnea (15-29%, severe 3%)
renal/genitourinary	renal failure (<1%)
vascular	hematoma (9%)

Adapted from standard reference<sup>1</sup> unless specified otherwise.

### SUPPLY AND STORAGE:

***Injection:*** supplied as 100 mg single-use vial containing 100 mg azacitidine as a sterile white lyophilized powder, for reconstitution as a suspension; supplied by Celgene. Store at room temperature.<sup>1</sup>

***For basic information on the current brand used at the BC Cancer Agency, see [Chemotherapy Preparation and Stability Chart](#) in Appendix.***

### SOLUTION PREPARATION AND COMPATIBILITY:

***For basic information on the current brand used at the BC Cancer Agency, see [Chemotherapy Preparation and Stability Chart](#) in Appendix.***

### PARENTERAL ADMINISTRATION:

BCCA administration guideline noted in ***bold, italics***

<b><i>Subcutaneous<sup>1</sup></i></b>	<b><i>into the upper arm, thigh or abdomen; doses greater than 4 mL should be injected into two separate sites; rotate sites of injection</i></b>
Intramuscular	no information found
Direct intravenous	no information found
Intermittent infusion	no information found
Continuous infusion	no information found
Intraperitoneal	no information found
Intrapleural	no information found
Intrathecal	no information found
Intra-arterial	no information found
Intravesical	no information found

### DOSAGE GUIDELINES:

Refer to protocol by which patient is being treated. Numerous dosing schedules exist and depend on disease, response and concomitant therapy. Guidelines for dosing also include consideration of absolute neutrophil count

