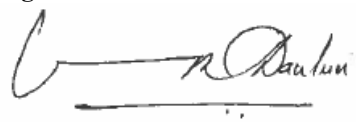


## Prior Authorization Review Panel

### CHC-MCO Policy Submission

A separate copy of this form must accompany each policy submitted for review.  
Policies submitted without this form will not be considered for review.

<b>Plan: PA Health &amp; Wellness</b>	<b>Submission Date: 05/01/2022</b>
<b>Policy Number: PA.CP.PHAR.258</b>	<b>Effective Date: 01/2018 Revision Date: 04/2022</b>
<b>Policy Name: Mitoxantrone</b>	
<p><b>Type of Submission – <u>Check all that apply</u>:</b></p> <p> <input type="checkbox"/> New Policy  <input checked="" type="checkbox"/> Revised Policy*  <input type="checkbox"/> Annual Review - No Revisions  <input type="checkbox"/> Statewide PDL - <i>Select this box when submitting policies for Statewide PDL implementation and when submitting policies for drug classes included on the Statewide PDL.</i> </p>	
<p><b>*All revisions to the policy <u>must</u> be highlighted using track changes throughout the document.</b></p> <p><b>Please provide any changes or clarifying information for the policy below:</b></p> <p>2Q 2022 annual review: removed references to the brand product Novantrone as it is no longer on market; removed mantle cell lymphoma as a coverable B-cell lymphoma and clarified coverable ALL types per NCCN; clarified interferon-beta product redirections per SDC; updated redirections based on current formulary status; references reviewed and updated.</p>	
<b>Name of Authorized Individual (Please type or print):</b>  <b>Venkateswara R. Davuluri, MD</b>	<b>Signature of Authorized Individual:</b> 

# Clinical Policy: Mitoxantrone

Reference Number: PA.CP.PHAR.258

Effective Date: 01/18

Last Review Date: 05/2022

[Coding Implications](#)

[Revision Log](#)

## Description

Mitoxantrone is a synthetic antineoplastic anthracenedione.

## FDA Approved Indication(s)

Mitoxantrone is indicated for:

- Reducing neurologic disability and/or the frequency of clinical relapses in patients with secondary (chronic) progressive, progressive relapsing, or worsening relapsing-remitting multiple sclerosis (MS) (i.e., patients whose neurologic status is significantly abnormal between relapses)
- Treatment of patients with pain related to advanced hormone-refractory prostate cancer as initial chemotherapy in combination with corticosteroids
- Initial therapy of acute nonlymphocytic leukemia (ANLL) (including myelogenous, promyelocytic, monocytic, and erythroid acute leukemias) in adults in combination with other approved drug(s)

Limitation(s) of use: Mitoxantrone is not indicated in the treatment of patients with primary progressive MS.

## Policy/Criteria

It is the policy of PA Health & Wellness<sup>®</sup> that mitoxantrone is **medically necessary** for the following indications:

### I. Initial Approval Criteria

#### A. Multiple Sclerosis (must meet all):

1. Diagnosis of one of the following (a or b):
  - a. Relapsing-remitting MS, and failure of two preferred Multiple Sclerosis Agents (*see list of preferred agents at <https://papdl.com/preferred-drug-list>*) at up to maximally indicated doses, unless clinically significant adverse effects are experienced or all are contraindicated, unless member is currently stabilized on therapy;  
*\*Prior authorization is required for all disease modifying therapies for MS*
  - b. Secondary progressive MS;
2. Prescribed by or in consultation with a neurologist;
3. Age  $\geq$  18 years;
4. Mitoxantrone is not prescribed concurrently with other disease modifying therapies for MS (*see Appendix D*);
5. Documentation of baseline number of relapses per year and expanded disability status scale (EDSS) score;
6. Dose does not exceed 12 mg/m<sup>2</sup> every 3 months (total cumulative lifetime dose of 140 mg/m<sup>2</sup>).

**Approval duration: 6 months**

**B. Prostate Cancer (must meet all):**

1. Diagnosis of advanced or metastatic prostate cancer;
2. Prescribed by or in consultation with an oncologist;
3. Age  $\geq 18$  years;
4. Disease is hormone-refractory (i.e., castration-resistant);
5. Mitoxantrone is prescribed concurrently with a corticosteroid;
6. Request meets one of the following (a or b):
  - a. Dose does not exceed 14 mg/m<sup>2</sup> every 21 days;
  - b. Dose is supported by practice guidelines or peer-reviewed literature for the relevant off-label use (*prescriber must submit supporting evidence*);
7. Total cumulative lifetime dose does not exceed 144 mg/m<sup>2</sup>.

**Approval duration: 6 months**

**C. Acute Nonlymphocytic Leukemia (must meet all):**

1. Diagnosis of ANLL (including myelogenous [i.e., acute myelogenous leukemia], promyelocytic, monocytic, and erythroid acute leukemias);
2. Prescribed by or in consultation with an oncologist or hematologist;
3. Age  $\geq 18$  years;
4. Mitoxantrone is prescribed in combination with other therapies for the diagnosis;
5. Request meets one of the following (a or b):
  - a. Dose does not exceed 12 mg/m<sup>2</sup> per infusion;
  - b. Dose is supported by practice guidelines or peer-reviewed literature for the relevant off-label use (*prescriber must submit supporting evidence*);
6. Total cumulative lifetime dose does not exceed 140 mg/m<sup>2</sup>.

**Approval duration: 6 months**

**D. Lymphoma (off-label) (must meet all):**

1. Diagnosis of one of the following (a b, or c):
  - a. Relapsed/refractory classical Hodgkin lymphoma as a third-line or subsequent therapy as a component of MINE (mesna, ifosfamide, mitoxantrone, and etoposide);
  - b. One of the following B-cell lymphomas as subsequent therapy as a component of MINE (mesna, ifosfamide, mitoxantrone, and etoposide): follicular lymphoma, diffuse large B-cell lymphoma, high grade B-cell lymphoma, AIDS-related B-cell lymphoma, or post-transplant lymphoproliferative disorder;
  - c. Symptomatic T-cell prolymphocytic leukemia as a component of FMC (fludarabine, mitoxantrone, and cyclophosphamide);
2. Prescribed by or in consultation with an oncologist or hematologist;
3. Age  $\geq 18$  years;
4. Dose is supported by practice guidelines or peer-reviewed literature for the relevant off-label use (*prescriber must submit supporting evidence*);
5. Total cumulative lifetime dose does not exceed 140 mg/m<sup>2</sup>.

**Approval duration: 6 months**

**E. Acute Lymphoblastic Leukemia (off-label) (must meet all):**

1. Diagnosis of acute lymphoblastic leukemia (ALL);

2. Prescribed by or in consultation with an oncologist or hematologist;
3. Member meets one of the following (a or b):
  - a. Member is considered an adult per NCCN guidelines, and both of the following (i and ii):
    - i. One of the following (1 or 2):
      1. Disease is Philadelphia chromosome (Ph)-negative T-ALL or B-ALL, and relapsed or refractory;
      2. Disease is Ph-positive B-ALL, and refractory to tyrosine kinase inhibitor therapy (e.g., dasatinib, imatinib, ponatinib, nilotinib, bosutinib);
    - ii. Mitoxantrone is prescribed as a component of an alkylator combination regimen (e.g., etoposide, ifosfamide, and mitoxantrone), FLAM (fludarabine, cytarabine, and mitoxantrone), or mitoxantrone, etoposide and cytarabine;
  - b. Member is considered to be Pediatric or Adolescent and Young Adult (AYA) per NCCN guidelines, and one of the following (i, ii, or iii):
    - i. Relapsed/refractory Ph-negative B-ALL;
    - ii. Relapsed/refractory Ph-positive B-ALL in combination with dasatinib or imatinib;
    - iii. Relapsed/refractory T-ALL as a component of UKALL R3 Block 1 (dexamethasone, mitoxantrone, pegaspargase, and vincristine);
4. Dose is supported by practice guidelines or peer-reviewed literature for the relevant off-label use (*prescriber must submit supporting evidence*);
5. Total cumulative lifetime dose does not exceed 140 mg/m<sup>2</sup>.

**Approval duration: 6 months**

**F. Other diagnoses/indications:** Refer to PA.CP.PMN.53

## II. Continued Approval

### A. Multiple Sclerosis (must meet all):

1. Currently receiving medication via PA Health & Wellness benefit or member has previously met all initial approval criteria or the Continuity of Care policy (PA.LTSS.PHAR.01) applies;
2. Member meets one of the following (a or b):
  - a. If member has received < 1 year of total treatment: Member is responding positively to therapy;
  - b. If member has received ≥ 1 year of total treatment: Member meets one of the following (i, ii, iii, or iv):
    - i. Member has not had an increase in the number of relapses per year compared to baseline;
    - ii. Member has not had ≥ 2 new MRI-detected lesions;
    - iii. Member has not had an increase in EDSS score from baseline;
    - iv. Medical justification supports that member is responding positively to therapy;
3. Mitoxantrone is not prescribed concurrently with other disease modifying therapies for MS (*see Appendix D*);
4. If request is for a dose increase, new dose does not exceed 12 mg/m<sup>2</sup> every 3 months (total cumulative lifetime dose of 140 mg/m<sup>2</sup>).

**Approval duration: 6 months**

**B. All Other Indications in Section I (must meet all):**

1. Currently receiving medication via PA Health & Wellness benefit or member has previously met initial approval criteria; or the Continuity of Care policy (PA.LTSS.PHAR.01) applies;
2. Member is responding positively to therapy;
3. If request is for a dose increase, request meets one of the following (a, b, or c):
  - a. Prostate cancer: New dose does not exceed 14 mg/m<sup>2</sup> every 21 days;
  - b. ANLL: New dose does not exceed 12 mg/m<sup>2</sup> per infusion;
  - c. Any indication: New dose is supported by practice guidelines or peer-reviewed literature for the relevant off-label use (*prescriber must submit supporting evidence*);
4. Total cumulative lifetime dose does not exceed one of the following (a or b):
  - a. For Acute Nonlymphocytic Leukemia, Lymphoma, and Acute Lymphoblastic Leukemia: 140 mg/m<sup>2</sup>;
  - b. For Prostate Cancer: 144 mg/m<sup>2</sup>.

**Approval duration: 12 months**

**C. Other diagnoses/indications (must meet 1 or 2):**

1. Currently receiving medication via PA Health & Wellness benefit and documentation supports positive response to therapy or the Continuity of Care policy (PA.LTSS.PHAR.01) applies; or
2. Refer to PA.CP.PMN.53.

**III. Appendices/General Information**

*Appendix A: Abbreviation/Acronym Key*

ALL: acute lymphoblastic leukemia  
 ANLL: acute nonlymphocytic leukemia  
 B-ALL: B-cell acute lymphoblastic leukemia  
 EDSS: expanded disability status scale  
 FDA: Food and Drug Administration

MS: multiple sclerosis  
 NCCN: National Comprehensive Cancer Network  
 Ph: Philadelphia chromosome  
 T-ALL: T-cell acute lymphoblastic leukemia

*Appendix B: Therapeutic Alternatives*

*This table provides a listing of preferred alternative therapy recommended in the approval criteria. The drugs listed here may not be a formulary agent for all relevant lines of business and may require prior authorization.*

Drug Name	Dosing Regimen	Dose Limit/ Maximum Dose
Aubagio® (teriflunomide)	7 mg or 14 mg PO QD	14 mg/day
Avonex®, Rebif® (interferon beta-1a)	Avonex: 30 mcg IM Q week Rebif: 22 mcg or 44 mcg SC TIW	Avonex: 30 mcg/week Rebif: 44 mcg TIW
Plegridy® (peginterferon beta-1a)	125 mcg SC Q2 weeks	125 mcg/2 weeks

Drug Name	Dosing Regimen	Dose Limit/ Maximum Dose
Betaseron <sup>®</sup> , Extavia <sup>®</sup> (interferon beta-1b)	250 mcg SC QOD	250 mg QOD
glatiramer acetate (Copaxone <sup>®</sup> , Glatopa <sup>®</sup> )	20 mg SC QD or 40 mg SC TIW	20 mg/day or 40 mg TIW
Gilenya <sup>®</sup> (fingolimod)	0.5 mg PO QD	0.5 mg/day
dimethyl fumarate (Tecfidera <sup>®</sup> )	120 mg PO BID for 7 days, followed by 240 mg PO BID	480 mg/day

*Therapeutic alternatives are listed as Brand name<sup>®</sup> (generic) when the drug is available by brand name only and generic (Brand name<sup>®</sup>) when the drug is available by both brand and generic.*

*Appendix C: Contraindications/Boxed Warnings*

- Contraindication(s): prior hypersensitivity to mitoxantrone
- Boxed warning(s): cardiotoxicity, secondary leukemia

*Appendix D: General Information*

- Disease-modifying therapies for MS are: glatiramer acetate (Copaxone<sup>®</sup>, Glatopa<sup>®</sup>), interferon beta-1a (Avonex<sup>®</sup>, Rebif<sup>®</sup>), interferon beta-1b (Betaseron<sup>®</sup>, Extavia<sup>®</sup>), peginterferon beta-1a (Plegridy<sup>®</sup>), dimethyl fumarate (Tecfidera<sup>®</sup>), diroximel fumarate (Vumerity<sup>™</sup>), monomethyl fumarate (Bafiertam<sup>™</sup>), fingolimod (Gilenya<sup>®</sup>, Tascenso ODT<sup>™</sup>), teriflunomide (Aubagio<sup>®</sup>), alemtuzumab (Lemtrada<sup>®</sup>), mitoxantrone (Novantrone<sup>®</sup>), natalizumab (Tysabri<sup>®</sup>), ocrelizumab (Ocrevus<sup>™</sup>), cladribine (Mavenclad<sup>®</sup>), siponimod (Mayzent<sup>®</sup>), ozanimod (Zeposia<sup>®</sup>), ponesimod (Ponvory<sup>™</sup>), and ofatumumab (Kesimpta<sup>®</sup>).
- Mitoxantrone has Drugdex IIa recommendations for use in anthracycline-resistant breast cancer, liver cancer, and ovarian cancer; however, these indications are not supported by the National Comprehensive Cancer Network (NCCN). Of note, use of mitoxantrone in invasive breast cancer is actually listed as a use no longer recommended by the NCCN.
- Per the NCCN, prostate cancer that stops responding to traditional androgen deprivation therapy (i.e., hormone therapy) is categorized as castration-recurrent (also known as castration-resistant).

**IV. Dosage and Administration**

Indication	Dosing Regimen	Maximum Dose
Relapsing MS	12 mg/m <sup>2</sup> given as a short (approximately 5 to 15 minutes) intravenous infusion every 3 months	Cumulative lifetime dose of $\geq 140$ mg/m <sup>2</sup>
Hormone-refractory prostate cancer	12 to 14 mg/m <sup>2</sup> given as a short intravenous infusion every 21 days	Cumulative lifetime dose of $\geq 140$ mg/m <sup>2</sup>
ANLL	Induction: 12 mg/m <sup>2</sup> of mitoxantrone injection (concentrate) daily on Days 1 to 3 given as an intravenous infusion. A second induction course (2 days) may be given if there is an incomplete antileukemic response	Cumulative lifetime dose of $\geq 140$ mg/m <sup>2</sup>

Indication	Dosing Regimen	Maximum Dose
	Consolidation: 12 mg/m <sup>2</sup> given by intravenous infusion daily on Days 1 and 2	

#### V. Product Availability

Multidose vial: 20 mg/10 mL, 25 mg/12.5 mL, 30 mg/15 mL

#### VI. References

1. Mitoxantrone Prescribing Information. Lake Forest, IL: Hospira Inc.; May 2018. Available at <http://labeling.pfizer.com/ShowLabeling.aspx?id=4536>. Accessed February 7, 2022.
2. Goodin DS, Frohman EM, Garmany GP, et al. Disease modifying therapies in multiple sclerosis: Subcommittee of the American Academy of Neurology and the MS Council for Clinical Practice Guidelines. *Neurology*. 2002; 58(2): 169-178.
3. National Comprehensive Cancer Network Drugs and Biologics Compendium. Available at: [http://www.nccn.org/professionals/drug\\_compendium](http://www.nccn.org/professionals/drug_compendium). Accessed February 7, 2022.
4. Rae-Grant A, Day GS, Marrie RA, et al. Practice guideline recommendations summary: disease-modifying therapies for adults with multiple sclerosis: report of the Guideline Development, Dissemination, and Implementation Subcommittee of the American Academy of Neurology. *Neurology*. 2018; 90(17): 777-788. Full guideline available at: <https://www.aan.com/Guidelines/home/GetGuidelineContent/904>.

#### Coding Implications

Codes referenced in this clinical policy are for informational purposes only. Inclusion or exclusion of any codes does not guarantee coverage. Providers should reference the most up-to-date sources of professional coding guidance prior to the submission of claims for reimbursement of covered services.

HCPSC Codes	Description
J9293	Injection, mitoxantrone HCl, per 5 mg

Reviews, Revisions, and Approvals	Date	Approval Date
2Q 2018 annual review: approval durations modified from 3 months to 6 months and removed LVEF requirement for MS; oncology: criteria added; references reviewed and updated.	01.05.18	
2Q 2019 annual review: MS: specified that generic forms of glatiramer are preferred; all blood cancers: added hematologist prescriber option; ANLL: added requirement for combination use; lymphoma: added requirement for combination use and clarified non-Hodgkin lymphomas to specific lymphoma types; added off-label criteria for ALL per NCCN; references reviewed and updated.	04.17.19	
2Q 2020 annual review: ALL: added off-label criteria for pediatric ALL per NCCN; MS: added requirements for documentation of baseline	04/2020	

Reviews, Revisions, and Approvals	Date	Approval Date
relapses/EDSS and objective measures of positive response upon re-authorization; added total cumulative life dose criterion to each indication; references reviewed and updated.		
Added Bafiertam and Zeposia to list of disease-modifying therapies in Appendix D	08/2020	
2Q 2021 annual review: lymphoma: updated use in Hodgkin lymphoma and T-cell prolymphocytic leukemia per NCCN; references reviewed and updated.	04/2021	
2Q 2022 annual review: removed references to the brand product Novantrone as it is no longer on market; removed mantle cell lymphoma as a coverable B-cell lymphoma and clarified coverable ALL types per NCCN; clarified interferon-beta product redirections for each line of business per SDC; references reviewed and updated.	04/2022	