Clinical Policy: Mitoxantrone (Novantrone)
Reference Number: HIM.PA.SP53
Effective Date: 12.01.17
Last Review Date: 05.19
Line of Business: HIM

See Important Reminder at the end of this policy for important regulatory and legal information.

Description
Mitoxantrone (Novantrone®) is a synthetic antineoplastic anthracenedione.

FDA Approved Indication(s)
Novantrone 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: Novantrone is not indicated in the treatment of patients with primary progressive MS.

Policy/Criteria
Provider must submit documentation (such as office chart notes, lab results or other clinical information) supporting that member has met all approval criteria.

It is the policy of health plans affiliated with Centene Corporation® that Novantrone is medically necessary when the following criteria are met:

I. Initial Approval Criteria
   A. Multiple Sclerosis (must meet all):
      1. Diagnosis of relapsing-remitting or secondary-progressive MS;
      2. Prescribed by or in consultation with a neurologist;
      3. Age ≥ 18 years;
      4. If relapsing-remitting MS, failure of one of the following (a or b) at up to maximally indicated doses, unless contraindicated or clinically significant adverse effects are experienced:
         a. Tecfidera® or Gilenya® and any of the following: an interferon-beta agent (Betaseron® and Rebif® are preferred), glatiramer (generic [including Glatopa®] is preferred), or Aubagio®;
         b. Tecfidera and Gilenya;
Mitoxantrone

*Prior authorization is required for all disease modifying therapies for MS*

5. Novantrone is not prescribed concurrently with other disease modifying therapies for MS (see Appendix D);
6. Dose does not exceed 12 mg/m² every 3 months (total cumulative lifetime dose of 140 mg/m²).

**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 ≥ 18 years;
4. Disease is hormone-refractory (i.e., castration-recurrent);
5. Novantrone is prescribed concurrently with a corticosteroid;
6. Request meets one of the following (a or b):
   a. Dose does not exceed 14 mg/m² 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 140 mg/m².

**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 ≥ 18 years;
4. Novantrone 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/m² 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/m².

**Approval duration: 6 months**

**D. Lymphoma (off-label) (must meet all):**
1. Diagnosis of one of the following (a, b, or c):
   a. Classical Hodgkin lymphoma in combination with other therapies for the diagnosis;
   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, mantle cell lymphoma, high grade B-cell lymphoma, AIDS-related B-cell lymphoma, or post-transplant lymphoproliferative disorder;
   c. 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 ≥ 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/m².

**Approval duration: 6 months**

**E. Acute Lymphoblastic Leukemia (off-label) (must meet all):**
1. Diagnosis of acute lymphoblastic leukemia;
2. Prescribed by or in consultation with an oncologist or hematologist;
3. Age ≥ 18 years;
4. One of the following (a or b):
   a. Disease is Philadelphia chromosome-negative, and relapsed or refractory;
   b. Disease is Philadelphia chromosome-positive, and refractory to tyrosine kinase inhibitor therapy (e.g., dasatinib, imatinib, ponatinib, nilotinib, bosutinib);
5. Novantrone is prescribed as a component of an alkylator combination regimen (e.g., etoposide, ifosfamide, and mitoxantrone) or FLAM (fludarabine, cytarabine, and mitoxantrone);
6. 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 140 mg/m².

**Approval duration: 6 months**

**F. Other diagnoses/indications**
1. Refer to the off-label use policy for the relevant line of business if diagnosis is NOT specifically listed under section III (Diagnoses/Indications for which coverage is NOT authorized): HIM.PHAR.21 for health insurance marketplace.

**II. Continued Therapy**

**A. Multiple Sclerosis (must meet all):**
1. Currently receiving medication via Centene benefit or member has previously met initial approval criteria;
2. Member is responding positively to therapy;
3. Novantrone 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/m² every 3 months (total cumulative lifetime dose of 140 mg/m²).

**Approval duration: 6 months**

**B. All Other Indications in Section I (must meet all):**
1. Currently receiving medication via Centene benefit or documentation supports that member is currently receiving Novantrone for an oncology indication listed in Section I;
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/m² every 21 days;
   b. ANLL: New dose does not exceed 12 mg/m² 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 140 mg/m².

Approval duration: 12 months

C. Other diagnoses/indications (must meet 1 or 2):
   1. Currently receiving medication via Centene benefit and documentation supports positive response to therapy.
      
      Approval duration: Duration of request or 6 months (whichever is less); or
   
   2. Refer to the off-label use policy for the relevant line of business if diagnosis is NOT specifically listed under section III (Diagnoses/Indications for which coverage is NOT authorized): HIM.PHAR.21 for health insurance marketplace.

III. Diagnoses/Indications for which coverage is NOT authorized:
   A. Non-FDA approved indications, which are not addressed in this policy, unless there is sufficient documentation of efficacy and safety according to the off label use policy – HIM.PHAR.21 for health insurance marketplace or evidence of coverage documents;

   B. Primary progressive MS.

IV. Appendices/General Information

   Appendix A: Abbreviation/Acronym Key
   ANLL: acute nonlymphocytic leukemia
   FDA: Food and Drug Administration
   MS: multiple sclerosis
   NCCN: National Comprehensive Cancer Network

   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.

<table>
<thead>
<tr>
<th>Drug Name</th>
<th>Dosing Regimen</th>
<th>Dose Limit/Maximum Dose</th>
</tr>
</thead>
</table>
| 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 |
| Plegidly® (peginterferon beta-1a) | 125 mcg SC Q2 weeks             | 125 mcg/2 weeks         |
| Betaseron®, Extavia® (interferon beta-1b) | 250 mcg SC QOD | 250 mg QOD |
| glatiramer acetate (Copaxone®, Glatopa®) | 20 mg SC QD or 40 mg SC TIW | 20 mg/day or 40 mg TIW |
| Aubagio® (teriflunomide)         | 7 mg or 14 mg PO QD             | 14 mg/day               |
| Gilenya® (fingolimod)            | 0.5 mg PO QD                    | 0.5 mg/day              |
| Tecfidera® (dimethyl fumarate)   | 120 mg PO BID for 7 days, followed by 240 mg PO BID | 480 mg/day |

Therapeutic alternatives are listed as Brand name® (generic) when the drug is available by brand name only and generic (Brand name®) 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®, Glatopa®), interferon beta-1a (Avonex®, Rebif®), interferon beta-1b (Betaseron®, Extavia®), peginterferon beta-1a (Plegridy®), dimethyl fumarate (Tecfidera®), fingolimod (Gilenya®), teriflunomide (Aubagio®), alemtuzumab (Lemtrada®), mitoxantrone (Novantrone®), natalizumab (Tysabri®), and ocrelizumab (Ocrevus™).
- 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).

V. Dosage and Administration

<table>
<thead>
<tr>
<th>Indication</th>
<th>Dosing Regimen</th>
<th>Maximum Dose</th>
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<tbody>
<tr>
<td>Relapsing MS</td>
<td>12 mg/m² given as a short (approximately 5 to 15 minutes) intravenous infusion every 3 months</td>
<td>Cumulative lifetime dose of ≥ 140 mg/m²</td>
</tr>
<tr>
<td>Hormone-refractory</td>
<td>12 to 14 mg/m² given as a short intravenous infusion every 21 days</td>
<td>Cumulative lifetime dose of ≥ 140 mg/m²</td>
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<tr>
<td>prostate cancer</td>
<td></td>
<td></td>
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<tr>
<td>ANLL</td>
<td>Induction: 12 mg/m² 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 Consolidation: 12 mg/m² given by intravenous infusion daily on Days 1 and 2</td>
<td>Cumulative lifetime dose of ≥ 140 mg/m²</td>
</tr>
</tbody>
</table>

VI. Product Availability

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

VII. References


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.

<table>
<thead>
<tr>
<th>HCPCS Codes</th>
<th>Description</th>
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<tbody>
<tr>
<td>J9293</td>
<td>Injection, mitoxantrone HCl, per 5 mg</td>
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Reviews, Revisions, and Approvals

<table>
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<tr>
<th>Policy created</th>
<th>Date</th>
<th>P&amp;T Approval Date</th>
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<tr>
<td>08.31.17</td>
<td>11.17</td>
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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 | 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.

| 02.19.19 | 05.19 |

Important Reminder
This clinical policy has been developed by appropriately experienced and licensed health care professionals based on a review and consideration of currently available generally accepted standards of medical practice; peer-reviewed medical literature; government agency/program approval status; evidence-based guidelines and positions of leading national health professional organizations; views of physicians practicing in relevant clinical areas affected by this clinical policy; and other available clinical information. The Health Plan makes no representations and accepts no liability with respect to the content of any external information used or relied upon in developing this clinical policy. This clinical policy is consistent with standards of medical practice current at the time that this clinical policy was approved. “Health Plan” means a health plan that has adopted this clinical policy and that is operated or administered, in whole or in part, by Centene Management Company, LLC, or any of such health plan’s affiliates, as applicable.

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