# Drug Coverage Decision for B.C. PharmaCare

**About PharmaCare** B.C. PharmaCare is a government-funded drug plan. It helps British Columbians with the cost of eligible prescription drugs and specific medical supplies.

**Details of Drug Reviewed**

| **Drug** | **satralizumab** |
|---|---|
| Brand Name | Enspryng® |
| Dosage Form(s) | 120mg/mL pre-filled syringe for subcutaneous injection |
| Manufacturer | Hoffmann-La Roche Limited |
| **Submission Type** | **New Submission** |
| Use Reviewed | As monotherapy or in combination with immunosuppressive therapy (IST) for the treatment of neuromyelitis optica spectrum disorders (NMOSD) in adult and adolescent patients who are anti-aquaporin 4 seropositive (AQP4+). |
| Canadian Agency for Drugs and Technologies in Health (CADTH) Reimbursement Reviews (CRR) | Yes, the CRR recommended **to reimburse with clinical criteria and/or conditions.** Visit the CRR website for more details: SR0663 Enspryng - CDEC Final Recommendation April 23, 2021_for posting.pdf (cadth.ca) |
| Drug Benefit Council (DBC) | The DBC met on May 3, 2021. In their review, the DBC considered the following: the final reviews completed by the CRR on April 21, 2021, which included clinical and pharmacoeconomic evidence review material and the recommendations from the Canadian Drug Expert Committee (CDEC). The DBC also considered Patient Input Questionnaire responses from one patient and one patient group, patient input |

| | |
|---|---|
| | provided to the CRR, a Clinical Practice Review from one specialist, and a Budget Impact Assessment.<br>The DBC recommended that satralizumab not be listed at the submitted price for the treatment of NMOSD. |
| **Drug Coverage Decision** | **Limited Coverage Benefit**<br>Access the satralizumab criteria from: **www.gov.bc.ca/pharmacarespecialauthority** |
| Date | November 1, 2023 |
| Reason(s) | **Drug coverage decision is consistent with the DBC and CDEC recommendation.**<br>• Evidence from two randomized controlled trials demonstrated that satralizumab, alone or in combination with immunosuppressants, reduces the frequency of NMOSD relapses compared to placebo.<br>• The Ministry of Health participated in the pan-Canadian Pharmaceutical Alliance negotiations with the manufacturer and was able to address some concerns identified by CADTH and the DBC with respect to the cost-effectiveness and value for money. |
| Other Information | See the DBC Recommendation & Reasons |

**The Drug Review Process in B.C.**

A manufacturer submits a request to the Ministry of Health (Ministry).

An independent group called the Drug Benefit Council (DBC) gives advice to the Ministry. The DBC looks at:

- whether the drug is safe and effective
- advice from a national group called the Canadian Agency for Drugs and Technologies in Health (CADTH) Reimbursement Reviews(CRR)
- what the drug costs and whether it is a good value for the people of B.C.
- ethical considerations involved with covering or not covering the drug
- input from physicians, patients, caregivers, patient groups and drug submission sponsors

The Ministry makes PharmaCare coverage decisions by taking into account:

- the existing PharmaCare policies, programs and resources
- the evidence-informed advice of the DBC
- the drugs already covered by PharmaCare that are used to treat similar medical conditions
- the overall cost of covering the drug

Visit The Drug Review Process in B.C. - Overview and Ministry of Health - PharmaCare for more information.

**This document is intended for information only.**
It does not take the place of advice from a physician or other qualified health care provider.

**Appendix**

# Drug Benefit Council (DBC) Recommendation and Reasons for Recommendation

## FINAL

**Satralizumab (Enspryng™)**
**Hoffmann-La Roche Ltd.**

**Description:**

Drug review of **satralizumab (Enspryng™)** for the following Health Canada approved indication:

> For the treatment of neuromyelitis optica spectrum disorder (NMOSD) as monotherapy or in combination with immunosuppressive therapy in adult and adolescent patients who are anti-aquaporin 4 (AQP4) seropositive.

In their review, the DBC considered the following: the final reviews completed by the Common Drug Review (CDR) on April 21, 2021, which included clinical and pharmacoeconomic evidence review material and the recommendations from the Canadian Drug Expert Committee (CDEC). The DBC also considered Patient Input Questionnaire responses from one patient and one patient group, patient input provided to the CDR, a Clinical Practice Review from one specialist, and a Budget Impact Assessment.

**Dosage Forms:**

Enspryng™ is available as satralizumab 120 mg/mL prefilled syringe for subcutaneous injection.

**Recommendations:**

1. The Drug Benefit Council (DBC) recommends not to list satralizumab at the submitted price.
   - The CDEC recommendation provided initiation, renewal, and discontinuation criteria. If a price reduction is achieved that is acceptable to the Ministry of Health (the Ministry), the DBC recommends that the CDEC criteria should be considered as a basis for limited coverage criteria.

**Reasons for the Recommendation:**

**1. Summary**

- Evidence from 2 randomized controlled trials (RCTs) demonstrated that satralizumab, alone or in combination with immunosuppressants, reduces the frequency of NMOSD relapses compared with placebo.
- The RCTs reported no statistically significant differences in the key secondary outcomes and did not report health-related quality of life or disability outcomes for the AQP4 antibody–positive subgroup.
- A significant price reduction (CADTH recommends an 80-89% reduction from the manufacturer-submitted price) would increase the probability that satralizumab as monotherapy or in combination with immunosuppressants would be cost-effective at a conventional willingness-to-pay threshold.

**2. Clinical Efficacy**

- The DBC considered the CDEC review, which included 2 double-blind RCTs of patients with neuromyelitis optica (NMO) or NMOSD, Study 898 and Study 900.
- The CDEC review focused on the results in the AQP4 antibody–positive subgroup because this is the indicated population in Canada.
- Study 898 enrolled 83 adults and adolescents (12 years to 74 years of age), of whom 55 (66%) were AQP4 antibody positive. The patients enrolled had at least 2 relapses in the past year (1 of which occurred in the last 12 months) and all received background immunosuppressant treatment of azathioprine, mycophenolate mofetil, or corticosteroids during the trial.
- Study 900 enrolled 95 adults, aged 18 to 74 years, who had at least 1 relapse in the past year, including a first attack. The AQP4 antibody–positive subgroup included 64 patients (67%).
- Both Study 898 and 900 were event-driven trials that were designed to stop once 26 primary outcome relapse events were reported (in Study 898) or when 44 primary outcome relapse events had occurred or 1.5 years after the last patient was randomized (in Study 900). The median treatment duration was 33 weeks and 107 weeks for Study 898, and 55 weeks and 92 weeks in Study 900, for the placebo and satralizumab groups, respectively.
- In Study 898, the hazard ratio (HR) for the time to first adjudicated protocol-defined relapse in the AQP4-seropositive subgroup was 0.21, favouring a combination treatment of satralizumab plus immunosuppressants compared with immunosuppressants plus placebo.
- The HR for the time to first adjudicated protocol-defined relapse in the AQP4-seropositive subgroup in Study 900 was 0.26 in favour of satralizumab alone versus placebo. The results from both studies were considered clinically meaningful.

- outcomes (change from baseline to week 24 in pain VAS score or FACIT-F scores) and did not report health-related quality of life or disability outcomes for the AQP4 antibody–positive subgroup.
- For detailed information on the systematic review of satralizumab please see the CDEC Final Recommendation at: https://www.cadth.ca/satralizumab.

**1. Safety**

- The percentage of patients who experienced an adverse event ranged from 75% to 95% in the placebo groups and from 90% to 92% in the satralizumab groups. The most common adverse events were urinary tract infections, upper respiratory tract infections, headache, nasopharyngitis, and injection-related reactions.
- Serious adverse events were reported in 16% to 21% of patients assigned to placebo and 17% to 19% of patients who received satralizumab.
- More patients stopped treatment due to adverse events in the add-on therapy trial (Study 898) than in the monotherapy trial (Study 900).
- No deaths, hepatotoxicity, or anaphylaxis events were reported in either study.
- For detailed information on the safety and tolerability of satralizumab, please see the CDEC Final Recommendations at the links above.

**2. Economic Considerations**

- The CADTH reanalysis of the manufacturer submission reported that, at the submitted price, the incremental cost-effectiveness ratio (ICER) for satralizumab was $337,535 per quality-adjusted life-year (QALY) compared with no treatment, and the ICER for satralizumab plus immunosuppressants was $752,179 per QALY compared with immunosuppressants alone.
- The cost-effectiveness of satralizumab is uncertain due to limitations in the sponsor-submitted economic model and in the evidence for the comparative effectiveness of satralizumab versus other treatments for NMOSD.
- A price reduction is needed to increase the probability that satralizumab as monotherapy or in combination with immunosuppressants would be cost-effective at a $50,000 per QALY willingness-to-pay threshold.

**3. Of Note**

- NMOSD is a rare and devastating autoimmune disorder of the central nervous system that is characterized by neuroinflammatory relapses that result in progressive and irreversible damage to the optic nerve and spinal cord. Relapses in NMOSD are unpredictable and can cause blindness, paralysis and increased overall mortality.

Satralizumab and eculizumab are the first agents to have Health Canada Notice of Compliance for treatment of NMOSD in patients who are AQP4 seropositive. Other

- agents used off-label to treat NMOSD include azathioprine, mycophenolate mofetil, oral corticosteroids, rituximab, and tocilizumab.
- The one patient who responded to the Patient Input Questionnaire reported they had not tried the drug. The patient reported that other treatments they had tried were either ineffective or intolerable due to side effects and that satralizumab represented a hope that they would have to suffer fewer relapses.