



Isosorbide Mononitrate (ISMN) Shortage

Updated 16th May 2017

Suppliers of isosorbide mononitrate (ISMN) extended release tablets in Canada¹:

DIN	Brand Name	Manufacturer	Status as of May 15 th 2017
2126559	Imdur 60 mg ER TAB	AST	Unavailable: no projected date
2272830	APO-ISMN 60 mg ER TAB	APO	Unavailable until 07/08/17 (projected)
2301288	PMS-ISMN 60 mg ER TAB	PMS	Unavailable until 19/05/17 (projected)

Indication for ISMN extended release tablets:

- Prevention of anginal attacks in patients with chronic stable angina pectoris associated with coronary artery disease. ISMN is not intended for the immediate relief of acute attacks of angina pectoris²

Note: when switching drug treatment for stable ischemic heart disease (angina pectoris), ensure that patients have their rescue nitroglycerin (SL spray or SL tabs) with them at all times. ISMN and ISDN are NOT indicated for the treatment of immediate relief of acute symptoms of angina.

Alternatives for ISMN:

1. Isosorbide dinitrate (ISDN) tablets:
 - ISMN is the active metabolite of ISDN³
 - Shown to be similarly effective vs. ISMN ER, but in a limited body of evidence⁴⁻⁶
 - Generally as well tolerated as ISMN, but has higher rate of headache^{5,6}
 - Faster onset (30 minutes vs. <4 hours) and shorter duration of action (5 hours vs. 12 hours) compared to extended release ISMN⁷
 - 20 mg TID of ISDN has been shown similarly effective as 60 mg ISMN ER OD in one trial,⁶ but effective doses of ISDN were higher in some comparative trials to achieve similar efficacy⁴⁻⁶
 - Consider converting from ISMN ER tablets (e.g. 60 mg OD) to the same total daily milligram dose of ISDN IR tablets (e.g. 20 mg TID) administered TID
 - Titrate dose of ISDN up or down as needed (Usual maintenance dose= 10-40mg BID-TID)⁸
 - Administer ISDN tablets TID, such that a nitrate-free period of 10-14 hours is given (e.g. a dose at 7 a.m., 12 p.m., and 5 p.m.)⁸

Suppliers of isosorbide dinitrate (ISDN) tablets in Canada¹:

DIN	Brand Name	Manufacturer	Status as of May 15 th 2017
441694	AA-ISDN 30 mg TAB	AAP	Available on McKesson
441686	AA-ISDN 10 mg TAB	AAP	Available on McKesson
670944	AA-ISDN 5 mg TAB	AAP	Available on McKesson

2. Nitroglycerin transdermal patches:
 - Initial dose 0.2-0.4 mg/hr applied from 0800-2000h^{7,9}
 - Can increase up to 0.8 mg/hr⁷
 - If switching from a higher dose of ISMN (e.g. >120 mg/day), **consider** initiating at a higher dose.
3. Nitroglycerin 2% ointment (e.g. Nitrol):
 - Initial dose: 1.25 cm of ointment applied daily⁷
 - Can increase up to 5 cm TID⁷

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References:

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2. RxTx [Internet]. Ottawa (ON): Canadian Pharmacists Association; 2017. CPS online: ISMN (Sivem); [updated 21 Sept 2015; cited 12 May 2017] Available from: <http://www.e-therapeutics.ca>.
3. Lehman LS. Why use isosorbide dinitrate vs isosorbide mononitrate? Available from: <http://www.medscape.com/viewarticle/727150> [Accessed 12th May 2017].
4. Lupanov VP, Alekseeva IA, Vasil'eva NN, et al. Comparative study of isosorbide dinitrates and mononitrates in patients with ischemic heart disease and stable angina pectoris caused by stenosing coronary atherosclerosis. *Klin Med (Mosk)*. 2000; 78(9): 52-55. Abstract only.
5. Martsevich S, Semenova I, Alimova EV, et al. Selection of therapy with nitrates in patients with stable effort angina: results of comparative study of common isosorbide dinitrate and long acting preparation of isosorbide-5-mononitrate. *Kardiologija*. 2005; 45(11): 42-45. Abstract only.
6. Seabra-Gomes R, Aleixo AM, Adao M, et al. Comparison of the effects of a controlled-release formulation of isosorbide-5-mononitrate and conventional isosorbide dinitrate on exercise performance in men with stable angina pectoris. *Am J Cardiol*. 1990; 65(20): 1308-12.
7. LeBras M, Krahn K. Angina Treatment. RxFiles drug comparison charts. 11th ed. Saskatoon, SK: Saskatoon Health Region. [updated 01 Mar 2017; accessed 12 May 2017]. Available from: <http://www.rxfiles.ca>.
8. AHFS® Drug Information. Lexi-Comp Online, Bethesda, MD: American Society of Health-System Pharmacists; 2017; accessed 12 May 2017.
9. Lexi-Comp Online™, Lexi-Drugs Online™, Hudson, Ohio: Lexi-Comp, Inc.; 2017; May 12, 2017.