

## Contrast Medium FactFinder

*Committed to providing helpful information to International Spine Intervention Society members about key patient safety issues, the Society's Patient Safety Committee has developed a FactFinder series. FactFinders will explore and debunk myths surrounding patient safety issues. The intent of this FactFinder is to clarify the different indications for use of different formulations of contrast medium and the reported adverse effects related to each.*

**Myth #1: Isovue and Isovue-M have the same indications.**

**Fact: The indications for Isovue and Isovue-M overlap, but are still unique. Isovue is not indicated for intrathecal use, while Isovue-M is specifically indicated for intrathecal use.**

When contrast medium is used for spinal injections, intrathecal injection of contrast or steroids is not expected. As articulated in the International Spine Intervention Society's FactFinder on Preservatives,<sup>1</sup> if the needle tip is properly placed, intrathecal injection of contrast medium is unlikely and therefore the choice of Isovue or Isovue-M is inconsequential.

For intrathecal pumps and intrathecal neurolysis, or when inadvertent intrathecal injection of contrast medium is a concern, the correct choice of contrast medium is necessary. The different indications for Isovue and Isovue-M are clearly defined in the package inserts.

### Isovue

*Isovue is not indicated for intrathecal injection and the indications are clearly defined on the package insert.<sup>2</sup>*

**ISOVUE® -200**  
Iopamidol Injection 41%

**ISOVUE® -250**  
Iopamidol Injection 51%

**ISOVUE® -300**  
Iopamidol Injection 61%

**ISOVUE® -370**  
Iopamidol Injection 76%

**NOT FOR INTRATHECAL USE**

ISOVUE 200, 250, 300 and 370 are NOT FOR INTRATHECAL USE.  
See Indications, and Dosage and Administration sections for further details on proper use

DIAGNOSTIC  
NONIONIC RADIOPAQUE CONTRAST MEDIA  
For Angiography Throughout the Cardiovascular System, Including Cerebral and Peripheral Arteriography, Coronary Arteriography and Ventriculography, Pediatric Angiocardiography, Selective Visceral Arteriography and Aortography, Peripheral Venography (Phlebography), and Adult and Pediatric Intravenous Excretory Urography and Intravenous Adult and Pediatric Contrast Enhancement of Computed Tomographic (CECT) Head and Body Imaging

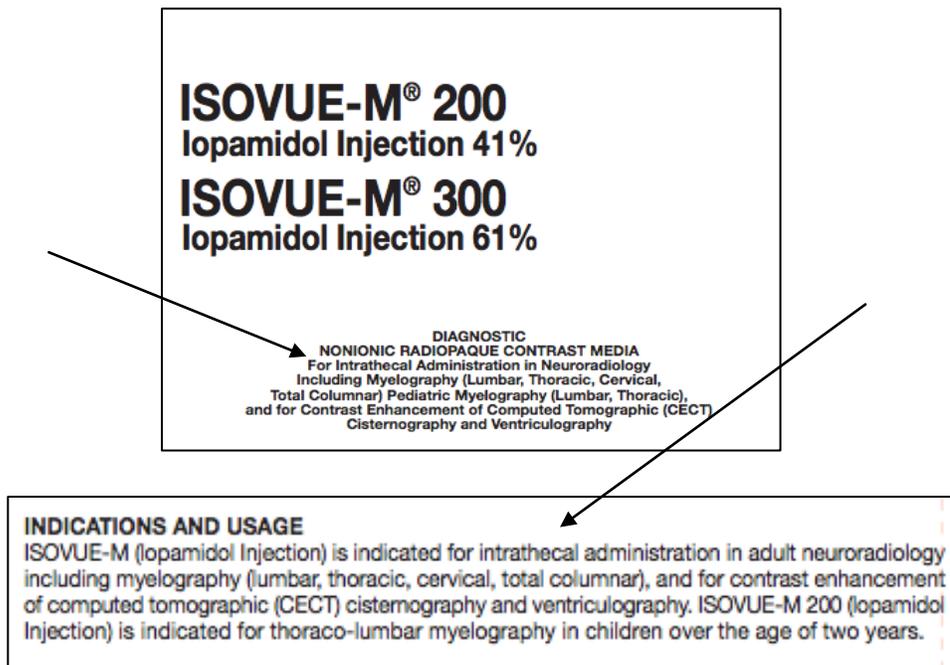
**INDICATIONS AND USAGE**

ISOVUE (Iopamidol Injection) is indicated for angiography throughout the cardiovascular system, including cerebral and peripheral arteriography, coronary arteriography and ventriculography, pediatric angiocardiology, selective visceral arteriography and aortography, peripheral venography (phlebography), and adult and pediatric intravenous excretory urography and intravenous adult and pediatric contrast enhancement of computed tomographic (CECT) head and body imaging (see below).

If used in the nervous system there is a clear risk of adverse reactions including pain (2.8%) and burning sensation (1.4%).<sup>2</sup>

**Isovue-M**

*In contrast, Isovue-M is specifically indicated for intrathecal injection, which is clearly defined as an indication on the package insert.<sup>3</sup>*



There have been no central nervous system adverse reactions with an incidence greater than 1% when Isovue-M was injected.<sup>3</sup>

**Summary**

- Both Isovue and Isovue-M can be used for non-intrathecal pain injections.
- Although Isovue-M is indicated for intrathecal injection, it is not completely safe. There is a case report of malignant cerebral edema after intrathecal injection of Isovue-M.<sup>4</sup> As with all medications and injections, the risks and benefits need to be fully evaluated with the patient prior to use.
- If an intrathecal injection is planned, or inadvertant intrathecal injection is a concern, Isovue is **not** the contrast agent of choice.

**Myth #2: Omnipaque 350 and Omnipaque 300 have the same indications.**

**Fact: The indications for Omnipaque 300 and Omnipaque 350 overlap, but are still unique. Omnipaque 350 is not indicated for intrathecal use, while Omnipaque 300 is specifically indicated for intrathecal use.**

The different indications for Omnipaque 300 and Omnipaque 350 are clearly defined on the packaging and in the package inserts.

### **Omnipaque 350**

*Omnipaque 350 is not indicated for intrathecal injection, and the indications are clearly defined in the package insert.<sup>5</sup>*



OMNIPAQUE 350 is indicated in adults for angiocardiology (ventriculography, selective coronary arteriography), aortography including studies of the aortic root, aortic arch, ascending aorta, abdominal aorta and its branches, contrast enhancement for computed tomographic head and body imaging, intravenous digital subtraction angiography of the head, neck, abdominal, renal and peripheral vessels, peripheral arteriography, and excretory urography.

OMNIPAQUE 350 is indicated in children for angiocardiology (ventriculography, pulmonary arteriography, and venography; studies of the collateral arteries and aortography, including the aortic root, aortic arch, ascending and descending aorta).

### **Omnipaque 300**

*In contrast, Omnipaque 300 is specifically indicated for intrathecal injection, which is clearly indicated on the package insert.<sup>5</sup>*



OMNIPAQUE 300 is indicated for intrathecal administration in adults including myelography (lumbar, thoracic, cervical, total columnar) and in contrast enhancement for computerized tomography (myelography, cisternography, ventriculography).

There have been no central nervous system adverse reactions with an incidence greater than 1% when Omnipaque 300 was injected.<sup>5</sup>

### Summary

- Both Omnipaque 300 and Omnipaque 350 can be used for non-intrathecal pain injections.
- Although Omnipaque 300 is indicated for intrathecal injection, it is not completely safe. There is a case report of aseptic meningoencephalitis after intrathecal injection of Omnipaque 300.<sup>6</sup> As with all medications and injections, the risks and benefits need to be fully evaluated with the patient prior to use.
- If an intrathecal injection is planned, or inadvertant intrathecal injection is a concern, Omnipaque 350 is **not** the contrast agent of choice.

### References:

1. International Spine Intervention Society FactFinder: Preservative vs. Preservative-Free: Steroid Choice for Epidural Steroid Injections. September 2013. [http://1515docs.org/factfinders/Preservative-Free\\_ESI\\_9-10-2013.pdf](http://1515docs.org/factfinders/Preservative-Free_ESI_9-10-2013.pdf)
2. [http://imaging.bracco.com/sites/braccoimaging.com/files/technica\\_sheet\\_pdf/ISOVUE200-370-8.5x11\\_0.pdf](http://imaging.bracco.com/sites/braccoimaging.com/files/technica_sheet_pdf/ISOVUE200-370-8.5x11_0.pdf)
3. Kelley BC, Roh S, Johnson PL, Arnold PM. Malignant Cerebral Edema following CT Myelogram Using Isovue-M 300 Intrathecal Nonionic Water-Soluble Contrast: A Case Report. Radiol Res Pract. Epub 2011 Jan 13.
4. <http://medlibrary.org/lib/rx/meds/omnipaque-2/>

5. Romesburg J, Ragozzino M. Aseptic meningoencephalitis after iohexol CT myelography. *AJNR Am J Neuroradiol.* 2009 May;30(5):1074-1075.