

Bracco Diagnostics Inc. Product HCPCS Codes

The individuals who appear are for illustrative purposes. All persons depicted are models and not real healthcare professionals.



HCPCS Coding & Reimbursement Guide

The Healthcare Common Procedure Coding System (HCPCS) information in the following tables can assist you in coding for Bracco Diagnostics' products and technologies. We at Bracco Diagnostics are committed to supporting all of our customers with resources to assist with coverage, coding, and reimbursement.

The source for all of the HCPCS codes featured in this booklet is the Centers for Medicare & Medicaid Services (CMS) NDC-HCPCS Crosswalk file. You may access this document at https://www.cms.gov/medicare/payment/ all-fee-service-providers/medicare-part-b-drug-average-sales-price/asp-pricing-files

For billing purposes when an 11 digit NDC number is required, please add an additional 0 at the beginning of each NDC number.

Disclaimers

The information provided is general reimbursement information for Bracco products. It is not legal advice, nor is it advice about how to code, complete or submit any particular claim for payment. Although we supply this information based on our current knowledge, it is always the provider's responsibility to determine and submit appropriate codes, charges, modifiers and bills for services that were rendered. This coding and reimbursement information is subject to change without notice. Payers or their local branches may have their own coding and reimbursement requirements and policies. Before filing any claims, providers should verify current requirements and policies with the payer.

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VUEWAY® Injection

HCPCS Codes	Product Description	CMS Product Abbreviations	Product SKU	NDC	Unit Size	HCPCS Dosage	HCPCS Billing Units
A9573	VUEWAY [®] (gadopiclenol) solution for injection, 485.1 mg/mL	Injection, gadopiclenol, 1 mL	702038	0270-7020-38	10 x 3 mL vials/box	1mL	3
A9573	VUEWAY [®] (gadopiclenol) solution for injection, 485.1 mg/mL	Injection, gadopiclenol, 1 mL	702540	0270-7025-40	10 x 7.5 mL vials/box	1mL	7.5
A9573	VUEWAY [®] (gadopiclenol) solution for injection, 485.1 mg/mL	Injection, gadopiclenol, 1 mL	703042	0270-7030-42	10 x 10 mL vials/box	1mL	10

VUEWAY® Pharmacy Bulk Package

HCPCS Codes	Product Description	CMS Product Abbreviations	Product SKU	NDC	Unit Size	HCPCS Dosage	HCPCS Billing Units
A9573	VUEWAY [®] (gadopiclenol) solution for injection, 485.1 mg/mL	Injection, gadopiclenol, 1 mL	701546	0270-7015-46	25 x 30 mL vials/box	1mL	30
A9573	VUEWAY [®] (gadopiclenol) solution for injection, 485.1 mg/mL	Injection, gadopiclenol, 1 mL	701548	0270-7015-48	25 x 50 mL vials/box	1mL	50





MultiHance[®] Contrast Agent

HCPCS Codes	Product Description	CMS Product Abbreviations	Product SKU	NDC	Unit Size	HCPCS Dosage	HCPCS Billing Units
A9577	MultiHance [®] (gadobenate dimeglumine) Injection, 529 mg/mL	Inj. MultiHance	5164-12	0270-5164-12	5 x 5 mL vials/box	1mL	5
A9577	MultiHance [®] (gadobenate dimeglumine) Injection, 529 mg/mL	Inj. MultiHance	5164-13	0270-5164-13	5 x 10 mL vials/box	1mL	10
A9577	MultiHance [®] (gadobenate dimeglumine) Injection, 529 mg/mL	Inj. MultiHance	5164-14	0270-5164-14	5 x 15 mL vials/box	1mL	15
A9577	MultiHance [®] (gadobenate dimeglumine) Injection, 529 mg/mL	Inj. MultiHance	5164-15	0270-5164-15	5 x 20 mL vials/box	1mL	20

MultiHance[®] Multipack[™] Contrast Agent

HCPCS Codes	Product Description	CMS Product Abbreviations	Product SKU	NDC	Unit Size	HCPCS Dosage	HCPCS Billing Units
A9578	MultiHance [®] Multipack [™] (gadobenate dimeglumine) Injection, 529 mg/mL	Inj. MultiHance Multipack	5264-16	0270-5164-16	5 x 50 mL bottles/box	1mL	50
A9578	MultiHance [®] Multipack [™] (gadobenate dimeglumine) Injection, 529 mg/mL	Inj. MultiHance Multipack	5264-17	0270-5164-17	5 x 100 mL bottles/box	1mL	100





ProHance® Contrast Agent

HCPCS Codes	Product Description	CMS Product Abbreviations	Product SKU	NDC	Unit Size	HCPCS Dosage	HCPCS Billing Units
A9579	ProHance [®] (Gadoteridol) Injection, 279.3 mg/mL	Gad-base MR Contrast NOS, 1mL	1111-04	0270-1111-04	5 x 5 mL vials/box	1mL	5
A9579	ProHance [®] (Gadoteridol) Injection, 279.3 mg/mL	Gad-base MR Contrast NOS, 1mL	1111-01	0270-1111-01	5 x 10 mL vials/box	1mL	10
A9579	ProHance [®] (Gadoteridol) Injection, 279.3 mg/mL	Gad-base MR Contrast NOS, 1mL	1111-02	0270-1111-02	5 x 15 mL vials/box	1mL	15
A9579	ProHance [®] (Gadoteridol) Injection, 279.3 mg/mL	Gad-base MR Contrast NOS, 1mL	1111-03	0270-1111-03	5 x 20 mL vials/box	1mL	20

ProHance[®] Multipack[™] Contrast Agent

HCPCS Codes	Product Description	CMS Product Abbreviations	Product SKU	NDC	Unit Size	HCPCS Dosage	HCPCS Billing Units
A9576	ProHance [®] Multipack™ (Gadoteridol) Injection, 279.3 mg/mL	Inj. ProHance Multipack	1111-70	0270-1111-70	5 x 50 mL bottles/box	1mL	50
A9576	ProHance [®] Multipack™ (Gadoteridol) Injection, 279.3 mg/mL	Inj. ProHance Multipack	1111-85	0270-1111-85	5 x 100 mL bottles/box	1mL	100





CYSTOGRAFIN®-DILUTE (diatrizoate meglumine injection USP 18%)

Please see indications, important safety information, and links to full prescribing information at the end of this document.

HCPCS Codes	Product Description	CMS Product Abbreviations	Product SKU	NDC	Unit Size	HCPCS Dosage	HCPCS Billing Units
Q9958	CYSTOGRAFIN [®] (diatrizoate meglumine Injection USP 30%)	HOCM<=149mg/ml iodine, 1 mL	0149-60	0270-0149-60	10 x 100mL bottles/case	1mL	100
Q9958	CYSTOGRAFIN [®] (diatrizoate meglumine Injection USP 30%)	HOCM<=149mg/ml iodine, 1 mL	0149-57	0270-0149-57	10 x 300 mL bottles/case	1mL	300
Q9958	CYSTOGRAFIN [®] -Dilute (diatrizoate meglumine Injection USP 18%)	HOCM<=149mg/ml iodine, 1 mL	0149-30	0270-1410-30	10 x 300 mL bottles/case	1mL	300



GASTROGRAFIN®

(diatrizoate meglumine and diatrizoate sodium solution USP)

Please see indications, important safety information, and links to full prescribing information at the end of this document.

HCPCS Codes	Product Description	CMS Product Abbreviations	Product SKU	NDC	Unit Size	HCPCS Dosage	HCPCS Billing Units
Q9963	GASTROGRAFIN [®] (diatrizoate meglumine and diatrizoate sodium solution USP)	HOCM < = 149mg/ml iodine, 1 mL	0445-35	0270-0445-35	24 x 30 mL bottles/case	1mL	30
Q9963	GASTROGRAFIN [®] (diatrizoate meglumine and diatrizoate sodium solution USP)	HOCM < = 149mg/ml iodine, 1 mL	0445-40	0270-0445-40	12 x 120 mL bottles/case	1mL	120





ISOVUE®-200 Contrast Agent

HCPCS Codes	Product Description	CMS Product Abbreviations	Product SKU	NDC	Unit Size	HCPCS Dosage	HCPCS Billing Units
Q9966	ISOVUE®-200 (iopamidol injection 41%)	LOCM 200-299mb/mL iodine, 1 mL	1314-15	0270-1314-15	5 x 200 mL vials/case	1mL	200

ISOVUE®-250 Contrast Agent

HCPCS Codes	Product Description	CMS Product Abbreviations	Product SKU	NDC	Unit Size	HCPCS Dosage	HCPCS Billing Units
Q9966	ISOVUE [®] -250 (iopamidol injection 51%)	LOCM 200-299mb/mL iodine, 1 mL	1317-02	0270-1317-02	10 x 100 mL bottles/case	1mL	100





ISOVUE®-300 Contrast Agent

HCPCS Codes	Product Description	CMS Product Abbreviations	Product SKU	NDC	Unit Size	HCPCS Dosage	HCPCS Billing Units
Q9967	ISOVUE®-300 (iopamidol injection 61%)	LOCM 300-399mb/mL iodine, 1 mL	1315-25	0270-1315-25	10 x 30 mL vials/case	1mL	30
Q9967	ISOVUE®-300 (iopamidol injection 61%)	LOCM 300-399mb/mL iodine, 1 mL	1315-35	0270-1315-35	10 x 100 mL bottles /case	1mL	100

ISOVUE®-300 Imaging Bulk Package

HCPCS Codes	Product Description	CMS Product Abbreviations	Product SKU	NDC	Unit Size	HCPCS Dosage	HCPCS Billing Units
Q9967	ISOVUE®-300 (iopamidol injection 61%) Imaging Bulk Package	LOCM 300-399mb/mL iodine, 1 mL	1315-45	0270-1315-45	10 x 200 mL bottles/case	1mL	200
Q9967	ISOVUE®-300 (iopamidol injection 61%) Imaging Bulk Package	LOCM 300-399mb/mL iodine, 1 mL	1315-95	0270-1315-95	6 x 500 mL bottles/case	1mL	500





ISOVUE®-370 Contrast Agent

HCPCS Codes	Product Description	CMS Product Abbreviations	Product SKU	NDC	Unit Size	HCPCS Dosage	HCPCS Billing Units
Q9967	ISOVUE®-370 (iopamidol injection 76%)	LOCM 300-399mb/mL iodine, 1 mL	1316-35	0270-1316-35	10 x 100 mL bottles/case	1mL	100

ISOVUE®-370 Imaging Bulk Package

HCPCS Codes	Product Description	CMS Product Abbreviations	Product SKU	NDC	Unit Size	HCPCS Dosage	HCPCS Billing Units
Q9967	ISOVUE®-370 (iopamidol injection 76%) Imaging Bulk Package	LOCM 300-399mb/mL iodine, 1 mL	1316-45	0270-1316-45	10 x 200 mL bottles/case	1mL	200
Q9967	ISOVUE®-370 (iopamidol injection 76%) Imaging Bulk Package	LOCM 300-399mb/mL iodine, 1 mL	1316-95	0270-1316-95	6 x 500 mL bottles/case	1mL	500





ISOVUE-M® 200 Contrast Agent

HCPCS Codes	Product Description	CMS Product Abbreviations	Product SKU	NDC	Unit Size	HCPCS Dosage	HCPCS Billing Units
Q9966	ISOVUE-M [®] 200 (iopamidol injection 41%)	LOCM 200-299mb/mL iodine, 1 mL	1411-11	0270-1411-11	10 x 10 mL vials/box	1mL	10

ISOVUE-M® 300 Contrast Agent

HCPCS Codes	Product Description	CMS Product Abbreviations	Product SKU	NDC	Unit Size	HCPCS Dosage	HCPCS Billing Units
Q9967	ISOVUE-M [®] 300 (iopamidol injection 61%)	LOCM 300-399mb/mL iodine, 1 mL	1412-15	0270-1412-15	10 x 15 mL vials/box	1mL	15





(sulfur hexafluoride lipid-type A microspheres) for injectable suspension, for intravenous use or intravesical use

Please see indications, important safety information, and links to full prescribing information at the end of this document.

HCPCS Codes	Product Description	CMS Product Abbreviations	Product SKU	NDC	Unit Size	HCPCS Dosage	HCPCS Billing Units Per Vial
Q9950	LUMASON [®] (sulfur hexafluoride lipid-type A microspheres) for injectable suspension, for intravenous use or intravesical use	Inj sulf hexa lipid microsph	7099-16	0270-7099-16	5 x 5 mL vials per box	1mL	5
Q9950	LUMASON [®] (sulfur hexafluoride lipid-type A microspheres) for injectable suspension, for intravenous use or intravesical use	Inj sulf hexa lipid microsph	7099-07	0270-7099-07	20 x 5 mL vials per box	1mL	5

HCPCS Codes	Product Description	CMS Product Abbreviations	Product SKU	NDC	Unit Size	HCPCS Dosage	HCPCS Billing Units Per Vial
Q9950	LUMASON Novaplus®	Inj sulf hexa lipid microsph	709700	0270-7099-73	5 x 5 mL vials per box	1mL	5
Q9950	LUMASON Novaplus®	Inj sulf hexa lipid microsph	709708	0270-7097-08	20 x 5 mL vials per box	1mL	5

Available to purchase direct from Bracco Diagnostics Inc. and through authorized wholesale distributors. Novaplus is a registered trademark of Vizient, Inc.





HCPCS Codes	Product Description	CMS Product Abbreviations	Product SKU	NDC	HCPCS Dosage
A9555	CARDIOGEN-82 [®] (Rubidium Rb 82 Generator)	Rubidium Rb-82	0091-01	0270-0091-01	Per study dose, up to 60 mCi





HCP0 Code		Product Description	CMS Product Abbreviations	Product SKU	NDC	Unit Size	HCPCS Billing Units
J280)5	Kinevac [®] (sincalide for injection)	Sincalide Inj	0556-15	0270-0556-15	10 x 5 mcg vials/box	5





VARIBAR[®] (barium sulfate), like all other barium contrast agents, does not have Level II HCPCS codes. Under Medicare, barium products are considered to be drugs used as supplies¹ and are not separately billable or paid. Hospitals should follow CMS' guidance for billing drugs that are packaged and paid as supplies—reporting coded and uncoded drugs with their charges under the revenue code associated with the cost center under which the hospital accumulates the costs for the drugs.

Check with your chargemaster specialist—common revenue codes for barium contrast agents are:²

- 0255: drugs incident to radiology
- 0270: medical/surgical supplies—general or
- 0621: medical/surgical supplies—extension of 027X—incident to radiology

Commercial payors may or may not reimburse for barium products separately. Please check with your individual payor's plans.

Medicare Benefit Policy Manual, Chapter 15—Covered Medical and Other Health Services, Section 50.2.M
 Section 2. Hospital Revenue Codes, Noridian https://med.noridianmedicare.com/web/jea/topics/claim-submission/revenue-codes—accessed November 20, 2023

Product Description	Product SKU	NDC	Unit Size
VARIBAR [®] HONEY (barium sulfate) oral suspension	900005	32909-122-07	12 x 250 mL bottles/case
VARIBAR [®] NECTAR (barium sulfate) oral suspension	705700	32909-116-00	12 x 240 mL bottles/case
VARIBAR® PUDDING (barium sulfate) oral paste	900006	32909-125-22	12 x 230 mL bottles/case
VARIBAR [®] THIN HONEY (barium sulfate) oral suspension	900004	32909-121-07	12 x 250 mL bottles/case
VARIBAR® THIN LIQUID (barium sulfate) for oral suspension	900001	32909-105-10	24 x 148 g bottles/case





VUEWAY® (gadopiclenol) solution for injection

Indications

VUEWAY injection is indicated in adults and children aged 2 years and older for use with magnetic resonance imaging (MRI) to detect and visualize lesions with abnormal vascularity in:

- the central nervous system (brain, spine and surrounding tissues),
- the body (head and neck, thorax, abdomen, pelvis, and musculoskeletal system).

IMPORTANT SAFETY INFORMATION

WARNING: RISK ASSOCIATED WITH INTRATHECAL USE and NEPHROGENIC SYSTEMIC FIBROSIS Risk Associated with Intrathecal Use

<u>Risk Associated with Intrathecal Use</u>

Intrathecal administration of gadolinium-based contrast agents (GBCAs) can cause serious adverse reactions including death, coma, encephalopathy, and seizures. VUEWAY is not approved for intrathecal use.

NEPHROGENIC SYSTEMIC FIBROSIS

Gadolinium-based contrast agents (GBCAs) increase the risk for NSF among patients with impaired elimination of the drugs. Avoid use of GBCAs in these patients unless the diagnostic information is essential and not available with non-contrasted MRI or other modalities. NSF may result in fatal or debilitating fibrosis affecting the skin, muscle and internal organs.

- The risk for NSF appears highest among patients with:
 - Chronic, severe kidney disease (GFR < 30 mL/min/1.73 m²), or
- Acute kidney injury.
- Screen patients for acute kidney injury and other conditions that may reduce renal function. For patients
 at risk for chronically reduced renal function (e.g. age > 60 years, hypertension, diabetes), estimate the
 glomerular filtration rate (GFR) through laboratory testing.
- For patients at highest risk for NSF, do not exceed the recommended VUEWAY dose and allow a sufficient
 period of time for elimination of the drug from the body prior to any re-administration.

CONTRAINDICATIONS

VUEWAY injection is contraindicated in patients with history of hypersensitivity reactions to VUEWAY.

Warnings and Precautions

There are **risks associated with intrathecal use** of GBCAs that can cause serious adverse reactions including death, coma, encephalopathy, and seizures. The safety and effectiveness of VUEWAY have not been established with intrathecal use and VUEWAY is not approved for intrathecal use.

Risk of **nephrogenic systemic fibrosis** is increased in patients using GBCA agents that have impaired elimination of the drugs, with the highest risk in patients with chronic, severe kidney disease as well as patients with acute kidney injury. Avoid use of GBCAs among these patients unless the diagnostic information is essential and not available with non-contrast MRI or other modalities.

Hypersensitivity reactions, including serious hypersensitivity reactions, could occur during use or shortly following VUEWAY administration. Assess all patients for any history of a reaction to contrast media, bronchial asthma and/or allergic disorders, administer VUEWAY only in situations where trained personnel and therapies are promptly available for the treatment of hypersensitivity reactions, and observe patients for signs and symptoms of hypersensitivity reactions after administration.

Gadolinium retention can be for months or years in several organs after administration. The highest concentrations (nanomoles per gram of tissue) have been identified in the bone, followed by other organs (brain, skin, kidney, liver and spleen). Minimize repetitive GBCA imaging studies, particularly closely spaced studies, when possible.

Acute kidney injury requiring dialysis has occurred with the use of GBCAs in patients with chronically reduced renal function. The risk of acute kidney injury may increase with increasing dose of the contrast agent.

Extravasation and injection site reactions can occur with administration of VUEWAY. Ensure catheter and venous patency before the injection of VUEWAY.

VUEWAY may **impair the visualization of lesions** seen on non-contrast MRI. Therefore, caution should be exercised when VUEWAY MRI scans are interpreted without a companion non-contrast MRI scan.

The most common adverse reactions (incidence $\geq 0.5\%$) are injection site pain (0.7%), and headache (0.7%).

You are encouraged to report negative side effects of prescription drugs to the FDA. Visit <u>www.fda.gov/</u> medwatch or call 1-800-FDA-1088.

Please click <u>here</u> for full Prescribing Information for VUEWAY, including BOXED WARNING on Nephrogenic Systemic Fibrosis.

Manufactured for Bracco Diagnostics Inc. by Liebel-Flarsheim Company LLC - Raleigh, NC, USA 27616.

VUEWAY is a registered trademark of Bracco Imaging S.p.A.





MultiHance® (gadobenate dimeglumine) injection, 529 mg/mL and

MultiHance[®] Multipack[™] (gadobenate dimeglumine) injection, 529 mg/mL

Indications and Usage:

MultiHance® (gadobenate dimeglumine) injection, 529 mg/mL is a gadolinium-based contrast agent indicated for intravenous use in:

- Magnetic resonance imaging (MRI) of the central nervous system (CNS) in adults and pediatric patients (including term neonates) to visualize lesions with abnormal blood-brain barrier or abnormal vascularity of the brain, spine, and associated tissues
- Magnetic resonance angiography (MRA) to evaluate adults with known or suspected renal or aorto-ilio-femoral
 occlusive vascular disease

IMPORTANT SAFETY INFORMATION:

WARNING: RISK ASSOCIATED WITH INTRATHECAL USE and NEPHROGENIC SYSTEMIC FIBROSIS Risk Associated with Intrathecal Use

Intrathecal administration of gadolinium-based contrast agents (GBCAs) can cause serious adverse reactions including death, coma, encephalopathy, and seizures. MultiHance is not approved for intrathecal use.

NEPHROGENIC SYSTEMIC FIBROSIS

Gadolinium-based contrast agents (GBCAs) increase the risk for NSF among patients with impaired elimination of the drugs. Avoid use of GBCAs in these patients unless the diagnostic information is essential and not available with non-contrasted MRI or other modalities. NSF may result in fatal or debilitating fibrosis affecting the skin, muscle and internal organs.

- The risk for NSF appears highest among patients with:
 - Chronic, severe kidney disease (GFR < 30 mL/min/1.73 m²), or
 - Acute kidney injury.
- Screen patients for acute kidney injury and other conditions that may reduce renal function. For patients at risk for chronically reduced renal function (e.g. age > 60 years, hypertension, diabetes), estimate the glomerular filtration rate (GFR) through laboratory testing.
- For patients at highest risk for NSF, do not exceed the recommended MultiHance dose and allow a sufficient period of time for elimination of the drug from the body prior to any re-administration.

CONTRAINDICATIONS

MultiHance is contraindicated in patients with known allergic or hypersensitivity reactions to gadolinium-based contrast agents.

WARNINGS AND PRECAUTIONS

Risk Associated with Intrathecal Use: Intrathecal administration of GBCAs can cause serious adverse reactions including death, coma, encephalopathy, and seizures. The safety and effectiveness of MultiHance have not been established with intrathecal use and MultiHance is not approved for intrathecal use.

Nephrogenic Systemic Fibrosis: NSF has occurred in patients with impaired elimination of GBCAs. Higher than recommended dosing or repeated dosing appears to increase risk.

Hypersensitivity Reactions: Anaphylactic and anaphylactoid reactions have been reported, involving cardiovascular, respiratory, and/or cutaneous manifestations. Some patients experienced circulatory collapse and died. In most cases, initial symptoms occurred within minutes of MultiHance administration and resolved with prompt emergency treatment. Consider the risk for hypersensitivity reactions, especially in patients with a history of hypersensitivity reactions or a history of asthma or other allergic disorders.

Gadolinium Retention: Gadolinium is retained for months or years in several organs. The highest concentrations have been identified in the bone, followed by brain, skin, kidney, liver, and spleen. At equivalent doses, retention varies among the linear agents. Retention is lowest and similar among the macrocyclic GBCAs. Consequences of gadolinium retention in the brain have not been established, but they have been established in the skin and other organs in patients with impaired renal function. Minimize repetitive GBCA imaging studies, particularly closely spaced studies when possible. **Acute Renal Failure:** In patients with renal insufficiency, acute renal failure requiring dialysis or worsening renal function have occurred with the use of GBCAs. The risk of renal failure may increase with increasing dose of the contrast agent. Screen all patients for renal dysfunction by obtaining a history and/or laboratory tests.

Extravasation and Injection Site Reactions: Extravasation of MultiHance may lead to injection site reactions, characterized by local pain or burning sensation, swelling, blistering, and necrosis. Exercise caution to avoid local extravasation during intravenous administration of MultiHance.

Cardiac Arrhythmias: Cardiac arrhythmias have been observed in patients receiving MultiHance in clinical trials. Assess patients for underlying conditions or medications that predispose to arrhythmias. The effects on QTc by MultiHance dose, other drugs, and medical conditions were not systematically studied.

Interference with Visualization of Certain Lesions: Certain lesions seen on non-contrast images may not be seen on contrast images. Exercise caution when interpreting contrast MR images in the absence of companion non-contrast MR images.

ADVERSE REACTIONS

The most commonly reported adverse reactions are nausea (1.3%) and headache (1.2%).

USE IN SPECIFIC POPULATIONS

Pregnancy: GBCAs cross the human placenta and result in fetal exposure and gadolinium retention. Use only if imaging is essential during pregnancy and cannot be delayed.

Lactation: There is no information on the effects of the drug on the breastfed infant or the effects of the drug on milk production. However, limited literature reports that breastfeeding after MultiHance administration to the mother would result in the infant receiving an oral dose of 0.001%-0.04% of the maternal dose.

Pediatric Use: MultiHance is approved for intravenous use for MRI of the CNS to visualize lesions with abnormal blood brain barrier or abnormal vascularity of the brain, spine, and associated tissues in pediatric patients from birth, including term neonates, to less than 17 years of age. Adverse reactions in pediatric patients were similar to those reported in adults. No dose adjustment according to age is necessary in pediatric patients two years of age and older. For pediatric patients, less than 2 years of age, the recommended dosage range is 0.1 to 0.2 mL/kg. The safety of MultiHance has not been established in preterm neonates.

You are encouraged to report negative side effects of prescription drugs to the FDA. Visit <u>www.fda.gov/</u> medwatch or call 1-800-FDA-1088.

Please click <u>here</u> for Prescribing Information and Patient Medication Guide for additional important safety information for/regarding MultiHance (gadobenate dimeglumine) injection, 529 mg/mL.

Please click <u>here</u> for Prescribing Information and Patient Medication Guide for additional important safety information for/regarding MultiHance Multipack.

MultiHance is manufactured for Bracco Diagnostics Inc. by BIPSO GmbH – 78224 Singen (Germany) and by Patheon Italia S.p.A., Ferentino, Italy.

MultiHance is a registered trademark of Bracco International B.V.

MultiHance Multipack is a trademark of Bracco International B.V.





ProHance[®] (Gadoteridol) Injection, 279.3 mg/mL

and

ProHance[®] Multipack[™] (Gadoteridol) Injection, 279.3 mg/mL

Indications and Usage:

CENTRAL NERVOUS SYSTEM

ProHance is indicated for use in MRI in adults and pediatric patients including term neonates to visualize lesions with disrupted blood-brain barrier and/or abnormal vascularity in the brain (intracranial lesions), spine, and associated tissues.

EXTRACRANIAL/EXTRASPINAL TISSUES

ProHance is indicated for use in MRI in adults to visualize lesions in the head and neck.

IMPORTANT SAFETY INFORMATION

WARNING: RISK ASSOCIATED WITH INTRATHECAL USE and NEPHROGENIC SYSTEMIC FIBROSIS Risk Associated with Intrathecal Use

Intrathecal administration of gadolinium-based contrast agents (GBCAs) can cause serious adverse reactions including death, coma, encephalopathy, and seizures. ProHance is not approved for intrathecal use.

NEPHROGENIC SYSTEMIC FIBROSIS

Gadolinium-based contrast agents (GBCAs) increase the risk for NSF among patients with impaired elimination of the drugs. Avoid use of GBCAs in these patients unless the diagnostic information is essential and not available with non-contrasted MRI or other modalities. NSF may result in fatal or debilitating systemic fibrosis affecting the skin, muscle and internal organs.

- The risk for NSF appears highest among patients with:
- chronic, severe kidney disease (GFR <30 mL/min/1.73m²), or
- acute kidney injury.
- Screen patients for acute kidney injury and other conditions that may reduce renal function. For patients at risk for chronically reduced renal function (e.g. age > 60 years, hypertension or diabetes), estimate the glomerular filtration rate (GFR) through laboratory testing.
- For patients at highest risk for NSF, do not exceed the recommended ProHance dose and allow a sufficient period of time for elimination of the drug from the body prior to re-administration.

CONTRAINDICATIONS

Contraindicated in patients with known allergic or hypersensitivity reactions to ProHance.

WARNINGS AND PRECAUTIONS

Risk Associated with Intrathecal Use: Intrathecal administration of GBCAs can cause serious adverse reactions including death, coma, encephalopathy, and seizures. The safety and effectiveness of ProHance have not been established with intrathecal use and ProHance is not approved for intrathecal use. **Nephrogenic Systemic Fibrosis:** NSF has occurred in patients with impaired elimination of GBCAs. Higher than recommended dosing or repeated dosing appears to increase risk. **Hypersensitivity Reactions:** Anaphylactic and anaphylactoid reactions have been reported, involving cardiovascular, respiratory, and/or cutaneous manifestations. Some patients experienced circulatory collapse and died. In most cases, initial symptoms occurred within minutes of administration and resolved with prompt emergency treatment. Prior to ProHance administration, ensure the availability of trained personnel and medications to treat hypersensitivity reactions. Consider these risks, especially in patients with a history of hypersensitivity reactions or a history of asthma or other allergic disorders.

Gadolinium Retention: Gadolinium is retained for months or years in several organs. The highest concentrations have been identified in the bone, followed by brain, skin, kidney, liver, and spleen. Linear GBCAs cause more retention than macrocyclic GBCAs. Consequences of gadolinium retention in the brain have not been established, but they have been established in the skin and other organs in patients with impaired renal function.

Acute Kidney Injury: In patients with chronically reduced renal function, acute kidney injury requiring dialysis has occurred with the use of GBCAs. The risk of acute kidney injury may increase with increasing dose of the contrast agent; administer the lowest dose necessary for adequate imaging.

ADVERSE REACTIONS

The most commonly reported adverse reactions are nausea and taste perversion with an incidence $\geq 0.9\%$.

USE IN SPECIFIC POPULATIONS

Pregnancy: GBCAs cross the human placenta and result in fetal exposure and gadolinium retention. Use only if imaging is essential during pregnancy and cannot be delayed.

Lactation: There are no data on the presence in human milk, the effects on the breastfed infant, or the effects on milk production. However, published lactation data on other GBCAs indicate that 0.01 to 0.04% of the maternal gadolinium dose is present in breast milk.

Pediatric Use: The safety and effectiveness of ProHance have been established for use with MRI to visualize lesions with abnormal blood brain barrier or abnormal vascularity of the brain, spine, and associated tissues in pediatric patients from birth, including term neonates, to 17 years of age. Adverse reactions in pediatric patients were similar to those reported in adults. No case of NSF associated with ProHance or any other GBCA has been identified in pediatric patients ages 6 years and younger.

You are encouraged to report negative side effects of prescription drugs to the FDA. Visit <u>www.fda.</u> <u>gov/medwatch</u> or call 1-800-FDA-1088.

Please click <u>here</u> for full Prescribing Information and Patient Medication Guide for additional important safety information for/regarding ProHance (Gadoteridol) Injection, 279.3 mg/mL.

Please click <u>here</u> for full Prescribing Information and Patient Medication Guide for additional important safety information for/regarding ProHance Multipack.

ProHance is manufactured for Bracco Diagnostics Inc. by BIPSO GmbH – 78224 Singen (Germany).

ProHance is a registered trademark of Bracco Diagnostics Inc.

ProHance Multipack is a trademark of Bracco Diagnostics Inc.



CYSTOGRAFIN[®] (diatrizoate meglumine injection USP 30%)

Cystografin[®] (Diatrizoate Meglumine Injection USP 30%) and Cystografin Dilute[®] (Diatrizoate Meglumine Injection USP 18%)

INDICATION

Cystografin® and Cystografin Dilute® are indicated for retrograde cystourethrography.

IMPORTANT SAFETY INFORMATION

CONTRAINDICATIONS

Contraindicated in patients with a hypersensitivity to salts of diatrizoic acid.

WARNINGS AND PRECAUTIONS

Severe sensitivity reactions are more likely to occur in patients with a personal or family history of bronchial asthma, significant allergies, or previous reactions to contrast agents.

A history of sensitivity to iodine per se or to other contrast agents is not an absolute contraindication to the use of diatrizoate meglumine but calls for extreme caution in administration.

Safe and effective use of this preparation depends upon proper dosage, correct technique, adequate precautions, and readiness for emergencies.

Retrograde cystourethrography should be performed with caution in patients with a known active infectious process of the urinary tract.

Sterile technique should be employed in administration. During administration, care should be taken to avoid excessive pressure, rapid or acute distention of the bladder, and trauma.

Contrast agents may interfere with some chemical determinations made on urine specimens; therefore, urine should be collected before administration of the contrast medium or two or more days afterward.

CYSTOGRAFIN®-DILUTE (diatrizoate meglumine injection USP 18%)

Pregnancy–Teratogenic Effects

It is also not known whether diatrizoate meglumine injection can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. [Cystografin or Cystografin Dilute] should be administered to a pregnant woman only if clearly needed.

ADVERSE REACTIONS

Retrograde genitourinary procedures may cause hematuria, perforation of the urethra or bladder, the introduction of infection into the genitourinary tract, and oliguria or anuria.

If intravasation of this drug occurs, the reactions which may be associated with intravenous administration may possibly be encountered. Hypersensitivity or anaphylactoid reactions may occur. Severe reactions may be manifested by edema of the face and glottis, respiratory distress, convulsions, or shock; such reactions may prove fatal unless promptly controlled by such emergency measures as maintenance of a clear airway and immediate use of oxygen and resuscitative drugs.

Endocrine: Thyroid function tests indicative of hypothyroidism or transient thyroid suppression have been uncommonly reported following iodinated contrast media administration to adult and pediatric patients, including infants. Some patients were treated for hypothyroidism.

You are encouraged to report negative side effects of prescription drugs to the FDA. Visit <u>www.fda.gov/</u> <u>medwatch</u> or call 1-800-FDA-1088.

Please click here for full Prescribing Information for Cystografin® (Diatrizoate Meglumine Injection USP 30%).

Please click <u>here</u> for full Prescribing Information for Cystografin Dilute[®] (Diatrizoate Meglumine Injection USP 18%).

CYSTOGRAFIN is manufactured for Bracco Diagnostics Inc., Monroe Township, NJ 08831, by Patheon Italia S.p.A., Ferentino (Italy).

CYSTOGRAFIN is a registered trademark of Bracco Diagnostics Inc.



GASTROGRAFIN® (diatrizoate meglumine and diatrizoate sodium solution USP)

GASTROGRAFIN® (Diatrizoate Meglumine and Diatrizoate Sodium Solution USP)

INDICATION

Gastrografin (Diatrizoate Meglumine and Diatrizoate Sodium Solution) is indicated for radiographic examination of segments of the gastrointestinal tract (esophagus, stomach, proximal small intestine, and colon). The preparation is particularly indicated when a more viscous agent such as barium sulfate, which is not water-soluble, is not feasible or is potentially dangerous.

Gastrografin may also be used as an adjunct to contrast enhancement in computed tomography of the torso (body imaging); the preparation is indicated, in conjunction with intravenous administration of a radiopaque contrast agent, when unenhanced imaging may not provide sufficient definition in distinguishing normal loops of bowel from adjacent organs or areas of suspected pathology.

CONTRAINDICATIONS

Do not administer to patients with a known hypersensitivity to Gastrografin or any of its components.

WARNINGS AND PRECAUTIONS

Dehydration: Administration of hypertonic Gastrografin solutions may lead to hypovolemia and hypotension due to fluid loss from the intestine. Less dilute solutions are hypertonic and may lead to intraluminal movement of fluid with resulting hypovolemia. In young or debilitated children and in elderly cachectic persons, the loss of plasma fluid may be sufficient to cause a shock-like state. If Gastrografin is used in infants and children (under 10 kg) or in dehydrated or debilitated patients, prepare the solution using the specific dilutions described in DOSAGE AND ADMINISTRATION. In debilitated patients and in patients with electrolyte imbalances, postprocedural monitoring of hydration, serum osmolarity, electrolytes, and clinical status is essential. In pediatric or severely debilitated patients, maintain an open intravenous fluid line for rehydration should hypotension or shock supervene. Correct electrolyte disturbances prior to any hypertonic Gastrografin solutions administration.

Aspiration: Aspiration of Gastrografin into the trachea and airways may result in serious pulmonary complications including, pulmonary edema, pneumonitis, or death. Bronchial entry of any orally administered contrast medium causes a copious osmotic effusion. Avoid the use of Gastrografin in patients with esophagotracheal fistula and minimize risks for pulmonary aspiration in all patients. If Gastrografin is given by nasogastric tube, verify the position of the tube in the stomach before administration.

Anaphylactic reactions: Anaphylactic reactions, including fatalities, have been reported. Patients with a history of a previous reaction to a contrast medium, known sensitivity to iodine, and known clinical hypersensitivity (bronchial asthma, hay fever, and food allergies) are at increased risk. Medical personnel trained in the treatment of anaphylactic reactions, necessary drugs, and medical equipment should be readily available when Gastrografin is used.

Diagnostic procedures: using radiopaque contrast agents should be carried out under the direction of personnel with the prerequisite training and with a thorough knowledge of the particular procedure to be performed. Appropriate facilities should be available for coping with any complication of administration, as well as for treatment of reaction to the contrast medium.

Rectal administration: of undiluted Gastrografin in any patient, particularly with large doses and/or in those with overdistention, has been reported to be associated with mucosal irritation.

Hyperthyroidism: Cases of hyperthyroidism have been reported with the use of oral contrast media. Some patients had multinodular goiters which may have been responsible for the increased hormone synthesis in response to excess iodine. Administration of an intravascular iodinated radiopaque diagnostic agent to a hyperthyroid patient precipitated thyroid storm; a similar situation could follow the administration of oral preparations of iodides. Use caution when administering enteral gastrointestinal radiopaque agents to hyperthyroid and euthyroid goiterous patients.

Hyperacidity Conditions: The potential for precipitation of water-soluble contrast agents under conditions that may promote hyperacidity (i.e., fasting, emotional upset, or stress) should be considered. The possibility of interpreting the precipitate radiologically as an anatomical abnormality (i.e., ulceration of the stomach or small intestine) or injury, should be kept in mind.

ADVERSE REACTIONS

Most adverse reactions to enteral diagnostic radiopaque agents are mild and transitory. Nausea, vomiting and/ or diarrhea, urticaria with erythema, hypoxia, acute dyspnea, tachyarrhythmia, and anaphylaxis have occurred following ingestion of the contrast medium, particularly when high concentrations of large volumes of solution are administered. Severe changes in serum osmolarity and electrolyte concentrations may produce shock-like states. It should be kept in mind that serious or anaphylactoid reactions that may occur with intravascular administration of radiopaque contrast agents are theoretically possible following administration by other routes.

You are encouraged to report negative side effects of prescription drugs to the FDA. Visit <u>www.fda.gov/</u> <u>medwatch</u> or call 1-800-FDA-1088.

Please click <u>here</u> for full Prescribing Information for Gastrografin[®] (Diatrizoate Meglumine and Diatrizoate Sodium Solution USP).

GASTROGRAFIN is manufactured for Bracco Diagnostics Inc., Monroe Township, NJ 08831 by E-Z-EM Canada Inc.

GASTROGRAFIN is a registered trademark of Bracco Diagnostics Inc.





INDICATION:

ISOVUE®-200, -250, -300, -370 (lopamidol Injection) ISOVUE®-300, -370 (lopamidol Injection) Imaging Bulk Package is indicated for:

- angiography in adults throughout the cardiovascular system including cerebral and peripheral arteriography, coronary arteriography and ventriculography, selective visceral arteriography and aortography, peripheral venography (phlebography),
- in pediatric patients for angiocardiography
- in adult and pediatric intravenous excretory urography and contrast enhancement of computed tomographic (CECT) head and body imaging.
 - CT Head Imaging (to refine diagnostic precision in areas of the brain which may not have been satisfactorily visualized)
 - CT Body Imaging (enhancement of computed tomographic images for detection and evaluation of lesions in the liver, pancreas, kidneys, aorta, mediastinum, abdominal cavity, pelvis and retroperitoneal space).

ISOVUE-300, -370 Imaging Bulk Package is for use only with an automated contrast injection system, contrast management system, or contrast media transfer set approved or cleared for use with ISOVUE-300, -370 Imaging Bulk Package.

ISOVUE-300, -370 Imaging Bulk Package is NOT FOR INTRATHECAL USE.

IMPORTANT SAFETY INFORMATION:

WARNINGS AND PRECAUTIONS

Severe Adverse Events-Inadvertent Intrathecal Administration

Serious adverse reactions including: death, convulsions, cerebral hemorrhage, coma, paralysis, arachnoiditis, acute renal failure, cardiac arrest, seizures, rhabdomyolysis, hyperthermia, and brain edema have been reported due to the inadvertent intrathecal administrations of iodinated contrast media that are not indicated for intrathecal use.

Special attention must be given to insure that this drug product is not inadvertently administered intrathecally.

Caution must be exercised in patients with severely impaired renal function, those with combined renal and hepatic disease, or anuria, particularly when larger or repeated doses are administered.

Clotting

Clotting has been reported when blood remains in contact with syringes containing nonionic contrast media.

Serious, rarely fatal, thromboembolic events causing myocardial infarction and stroke have been reported during angiographic procedures with both ionic and nonionic contrast media, therefore meticulous angiographic techniques are recommended in addition to minimizing the length of the procedure to help decrease in vitro clotting.

Patients with Multiple Myeloma or Paraproteinemia

Radiopaque diagnostic contrast agents are potentially hazardous in patients with multiple myeloma or other paraproteinemia, particularly in those with therapeutically resistant anuria. The risk in myelomatous patients is not a contraindication; however, special precautions are required.

Patients with Sickle Cell Disease

Contrast media may promote sickling in individuals who are homozygous for sickle cell disease when injected intravenously or intraarterially.

Patients with Pheochromocytoma

Administration of radiopaque materials to patients known or suspected of having pheochromocytoma should be performed with extreme caution. If the possible benefits of such procedures outweigh the considered risks, the procedures may be performed; however, the amount of radiopaque medium injected should be kept to an absolute minimum. The blood pressure should be assessed throughout the procedure and measures for treatment of a hypertensive crisis should be available. These patients should be monitored very closely during contrast enhanced procedures.

Thyroid Storm

The use of iodinated radiopaque diagnostic agents in patients with hyperthyroidism or with an autonomously functioning thyroid nodule suggest that this additional risk be evaluated in such patients before use of any contrast medium.

Thyroid Dysfunction in Pediatric Patients 0 to 3 Years of Age

Hypothyroidism or transient thyroid suppression has been reported after both single and multiple exposures to iodinated contrast media.

Younger age, very low birth weight, prematurity, underlying medical conditions affecting thyroid function, admission to neonatal or pediatric intensive care units, and congenital cardiac conditions are associated with an increased risk of hypothyroidism after ICM exposure. Pediatric patients with congenital cardiac conditions may be at greatest risk given that they often require high doses of contrast during invasive cardiac procedures.

An underactive thyroid during early life may be harmful for cognitive and neurological development and may require thyroid hormone replacement therapy. After exposure to ICM, individualize thyroid function monitoring based on underlying risk factors, especially in term and preterm neonates.

Severe Cutaneous Adverse Reactions

Severe Cutaneous adverse reactions (SCAR) may develop from 1 hour to several weeks after intravascular contrast agent administration. These reactions include Stevens-Johnson syndrome and toxic epidermal necrolysis (SJS/TEN), acute generalized exanthematous pustulosis (AGEP) and drug reaction with eosinophilia and systemic symptoms (DRESS). Reaction severity may increase and time to onset may decrease with repeat administration of contrast agent; prophylactic medications may not prevent or mitigate severe cutaneous adverse reactions.

Acute Renal Impairment / Failure

Diabetic nephropathy may predispose to acute renal impairment following intravascular contrast media administration. Acute renal impairment following contrast media administration may precipitate lactic acidosis in patients who are taking biguanides.

Preparatory dehydration is dangerous and may contribute to acute renal failure in patients with advanced vascular disease, diabetic patients, and in susceptible nondiabetic patients (often elderly with preexisting renal disease). Patients should be well hydrated prior to and following iopamidol administration.

Hypersensitivity /Anaphylaxis

Patients at increased risk include those with a history of a previous reaction to a contrast medium, with a known sensitivity to iodine, with a known clinical hypersensitivity (bronchial asthma, hay fever, and food allergies). A thorough medical history with emphasis on allergy and hypersensitivity, prior to the injection of any contrast medium, may be more accurate than pretesting in predicting potential adverse reactions. Premedication with antihistamines or corticosteroids to avoid or minimize possible allergic reactions in such patients should be considered.

Patients with Congestive Heart Failure

The potential transitory increase in the circulatory osmotic load in patients with congestive heart failure requires caution during injection. These patients should be observed for several hours following the procedure to detect delayed hemodynamic disturbances.

DRUG INTERACTION

Renal toxicity has been reported in a few patients with liver dysfunction who were given oral cholecystographic agents followed by intravascular contrast agents. Postpone administration of intravascular agents in any patient with known or suspected hepatic or biliary disorder who has recently received a cholecystographic contrast agent.

ADVERSE REACTIONS

The most frequent adverse reactions are hot flashes, angina pectoris, flushing, bradycardia, hypotension, and hives.

You are encouraged to report negative side effects of prescription drugs to the FDA. Visit <u>www.fda.gov/</u><u>medwatch</u> or call 1-800-FDA-1088.

Please click <u>here</u> for full Prescribing Information for ISOVUE[®] products.

Please click <u>here</u> for full Prescribing Information for ISOVUE[®] Imaging Bulk Package products.

ISOVUE and ISOVUE Imaging Bulk Package are currently manufactured for Bracco Diagnostics Inc. at three locations: BIPSO GmbH, Singen (Germany), Patheon Italia S.p.A., Ferentino (Italy), and S. M. Farmaceutici SRL, Tito (Italy).

ISOVUE is a registered trademark of Bracco Diagnostics Inc.

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ISOVUE-M[®] 200, 300 (lopamidol Injection)

INDICATION:

ISOVUE-M® 200, 300 (lopamidol Injection) is indicated for intrathecal administration in adult neuroradiology including myelography (lumbar, thoracic, cervical, total columnar), and for contrast enhancement of computed tomographic (CECT) cisternography and ventriculography. ISOVUE-M® 200 is indicated for thoraco-lumbar myelography in children over the age of two years.

CONTRAINDICATION:

Intrathecal administration of corticosteroids with iopamidol is contraindicated. Because of overdosage considerations, immediate repeat myelography in the event of technical failure is contraindicated. Myelography should not be performed in the presence of significant local or systemic infection where bacteremia is likely.

IMPORTANT SAFETY INFORMATION:

WARNINGS AND PRECAUTIONS

The need for myelographic examination should be carefully evaluated. Caution should be taken when administering ISOVUE-M to patients with increased intracranial pressure or suspicion of intracranial tumor, abscess or hematoma, those with a history of convulsive disorder, severe cardiovascular disease, chronic alcoholism, or multiple sclerosis, and elderly patients.

Particular attention must be given to the state of hydration, concentration of medium, dose, and technique used in these patients.

Risk of Neurotoxicity

Prevent inadvertent intracranial entry of a large or concentrated bolus of the contrast medium which can increase the risk of neurotoxicity through careful patient management. Avoid rapid dispersion of the medium causing inadvertent rise to intracranial levels (e.g., by active patient movement). If intracranial entry of the medium occurs, prophylactic anticonvulsant treatment with diazepam or barbiturates orally for 24 to 48 hours should be considered.

Lowered Seizure Threshold

Phenothiazine derivatives, including those used for their antihistaminic properties; tricyclic antidepressants; MA0 inhibitors; CNS stimulants; analeptics; and antipsychotic agents should be carefully evaluated as they may lower the seizure threshold. Some physicians have discontinued these agents at least 48 hours before and for at least 24 hours following intrathecal use.

Focal and Generalized Motor Seizures

In several cases where higher than recommended doses of iopamidol were administered, focal and generalized motor seizures were reported. Therefore avoid:

- · Deviations from recommended neuroradiologic procedure or patient management.
- Use in patients with a history of epilepsy unless medically justified.
- Overdosage.
- Intracranial entry of a bolus or premature diffusion of a high concentration of the medium.
- Failure to maintain elevation of the head during the procedure, on the stretcher, and in bed.
- · Excessive and particularly active patient movement or straining.

Hypersensitivity /Anaphylaxis

Patients at increased risk include those with a history of a previous reaction to a contrast medium, with a known sensitivity to iodine, with a known clinical hypersensitivity (bronchial asthma, hay fever, and food allergies). A thorough medical history with emphasis on allergy and hypersensitivity, prior to the injection of any contrast medium, may be more accurate than pretesting in predicting potential adverse reactions. Premedication with antihistamines or corticosteroids to avoid or minimize possible allergic reactions in such patients should be considered.

DRUG INTERACTION

Many radiopaque contrast agents are incompatible in vitro with some antihistamines and many other drugs. No other pharmaceuticals should be admixed with iopamidol.

ADVERSE REACTIONS

The most frequent adverse reactions are headache, nausea, vomiting, and musculoskeletal pain.

You are encouraged to report negative side effects of prescription drugs to the FDA. Visit <u>www.fda.gov/</u> medwatch or call 1-800-FDA-1088.

Please click here for full Prescribing Information for ISOVUE-M® products.

ISOVUE-M is currently manufactured for Bracco Diagnostics Inc. at three locations: BIPSO GmbH, Singen (Germany), Patheon Italia S.p.A., Ferentino (Italy), and S. M. Farmaceutici SRL, Tito (Italy).

ISOVUE-M is a registered trademark of Bracco Diagnostics Inc.



LUMASON[®] (sulfur hexafluoride lipid-type A microspheres) for injectable suspension, for intravenous use or intravesical use

LUMASON[®] (sulfur hexafluoride lipid-type A microspheres) for injectable suspension, for intravenous use or intravesical use

Indications

LUMASON[®] (sulfur hexafluoride lipid-type A microspheres) for injectable suspension, for intravenous use or intravesical use is an ultrasound contrast agent indicated for use:

- in echocardiography to opacify the left ventricular chamber and to improve the delineation of the left ventricular endocardial border in adult and pediatric patients with suboptimal echocardiograms
- in ultrasonography of the liver for characterization of focal liver lesions in adult and pediatric patients
- in ultrasonography of the urinary tract for the evaluation of suspected or known vesicoureteral reflux in pediatric patients

IMPORTANT SAFETY INFORMATION

WARNING: SERIOUS CARDIOPULMONARY REACTIONS

Serious cardiopulmonary reactions, including fatalities, have occurred uncommonly during or following the injection of ultrasound contrast agents, including sulfur hexafluoride lipid microspheres. Most serious reactions occur within 30 minutes of administration.

- · Assess all patients for the presence of any condition that precludes administration
- Always have resuscitation equipment and trained personnel readily available

Contraindications

LUMASON (sulfur hexafluoride lipid-type A microspheres) for injectable suspension, for intravenous use or intravesical use is contraindicated in patients with known or suspected hypersensitivity to sulfur hexafluoride lipid microsphere or its components, such as polyethylene glycol (PEG).

Warnings

Serious cardiopulmonary reactions, including fatalities, have occurred uncommonly during or shortly following administration of ultrasound contrast agents, including LUMASON. Always have cardiopulmonary resuscitation personnel and equipment readily available prior to LUMASON administration and monitor all patients for acute reactions.

Post-marketing **hypersensitivity reactions**, including serious hypersensitivity reactions, have been observed during use or shortly following LUMASON administration. These reactions may occur in patients with no history of prior exposure to sulfur hexafluoride lipid-containing microspheres. LUMASON contains PEG. There may be increased risk of serious reactions including death in patients with prior hypersensitivity reaction(s) to PEG.

Systemic embolization may occur in patients with cardiac shunts. Assess patients with cardiac shunts for embolic phenomena following LUMASON administration.

There is a risk of **ventricular arrhythmia related to high mechanical index** in patients administered LUMASON. LUMASON is not recommended for use at mechanical indices greater than 0.8.

The most common adverse reactions (incidence $\geq 0.5\%$) are headache (1%) and nausea (0.5%).

You are encouraged to report negative side effects of prescription drugs to the FDA. Visit <u>www.fda.gov/</u> medwatch or call 1-800-FDA-1088.

Please click <u>here</u> for full Prescribing Information for LUMASON ultrasound contrast agent, including BOXED WARNING on Serious Cardiopulmonary Reactions.

LUMASON is manufactured for Bracco Diagnostics Inc., Monroe Township, NJ 08831 by Bracco Suisse S.A., Plan-les-Ouates Geneve, Switzerland (LUMASON lyophilized powder vial-25 mg lipid-type A/60.7 sulfur hexafluoride gas); Vetter Pharma-Fertigung GmbH & Co. KG, 88212 Ravensburg, Germany (Sodium Chloride 0.9% Injection, USP); B. Braun Melsungen AG, 34212 Melsungen, Germany (Mini-Spike).

LUMASON is a registered trademark of Bracco Diagnostics Inc.





CARDIOGEN-82® (rubidium Rb 82 generator)

INDICATION

CARDIOGEN-82 is a closed system used to produce rubidium Rb 82 chloride injection for intravenous administration and is indicated for Positron Emission Tomography (PET) imaging of the myocardium under rest or pharmacologic stress conditions to evaluate regional myocardial perfusion in adult patients with suspected or existing coronary artery disease.

IMPORTANT SAFETY INFORMATION

WARNING: HIGH LEVEL RADIATION EXPOSURE WITH USE OF INCORRECT ELUENT AND FAILURE TO FOLLOW THE ELUATE TESTING PROTOCOL

High Level Radiation Exposure with Use of Incorrect Eluent

Patients are exposed to high radiation levels when the CardioGen-82 generator is eluted with the incorrect eluent due to high Sr 82 and Sr 85 breakthrough levels.

- Use only additive-free 0.9% Sodium Chloride Injection USP to elute the generator
- Immediately stop the patient infusion and permanently discontinue the use of the affected CardioGen-82 generator if the incorrect solution is used to elute the generator
- Evaluate the patient's radiation absorbed dose and monitor for the effects of radiation to critical organs such as bone marrow

Excess Radiation Exposure with Failure to Follow the Eluate Testing Protocol Excess radiation exposure occurs when the levels of Sr 82 or Sr 85 in the rubidium Rb 82 chloride injection exceed specified limits.

- Record each generator eluate volume, including waste and test volumes, and keep a record
 of the cumulative eluate volume
- Strictly adhere to the generator eluate testing protocol, to minimize the risk of excess radiation exposure, including daily testing and additional testing at Alert Limits
- Stop using the generator if it reaches any of its Expiration Limits: 17 L for the generator's cumulative eluate volume, or 42 days post generator calibration date, or an eluate Sr 82 level of 0.01 μ Ci /mCi Rb 82, or an eluate Sr 85 level of 0.1 μ Ci /mCi Rb 82

CONTRAINDICATIONS

CardioGen-82 is contraindicated if a solution other than additive free 0.9% Sodium Chloride Injection USP has been used to elute the generator at any time. Immediately stop the patient infusion and permanently discontinue the use of the affected CardioGen-82 generator whenever the incorrect eluent is used.

WARNINGS AND PRECAUTIONS

High Level Radiation Exposure with Use of Incorrect Eluent

Use only additive free 0.9% Sodium Chloride Injection USP to elute the generator. Apply the provided saline tag to the additive free 0.9% Sodium Chloride Injection USP container before use. Additives present in other

solutions (particularly calcium ions) expose patients to high levels of radiation by causing the release of large amounts of Sr 82 and Sr 85 into the eluate regardless of the generator's age or prior use. **Immediately stop** the patient infusion and discontinue use of the affected CardioGen-82 generator if the incorrect eluent is used and evaluate the patient's radiation absorbed dose and monitor for the effects of radiation to critical organs such as bone marrow.

Excess Radiation Exposure with Failure to Follow Testing Protocol

Excess radiation exposure occurs when the Sr 82 and Sr 85 levels in rubidium Rb 82 chloride injections exceed the specified generator eluate limits. Strictly adhere to the eluate testing protocol to minimize radiation exposure to the patient. Stop using the rubidium generator when the expiration limits are reached.

Risk Associated with Pharmacologic Stress

Pharmacologic induction of cardiovascular stress may be associated with serious adverse reactions such as myocardial infarction, arrhythmia, hypotension, bronchoconstriction, and cerebrovascular events. Perform pharmacologic stress testing in accordance with the pharmacologic stress agent's prescribing information and only in the setting where cardiac resuscitation equipment and trained staff are readily available.

Volume Overload

Patients with congestive heart failure or the elderly may experience a transitory increase in circulatory volume load.

Cumulative Radiation Exposure: Long-Term Risk of Cancer

Rubidium Rb 82 chloride injection, similar to other radiopharmaceuticals, contributes to a patient's overall long-term cumulative radiation exposure which is associated with an increased risk of cancer. Use the lowest dose of rubidium Rb 82 chloride injection necessary for imaging and ensure safe handling to protect the patient and health care worker. Encourage patients to void as soon as a study is completed and as often as possible thereafter for at least one hour.

ADVERSE REACTIONS

Radiation Exposure

High level radiation exposure to the bone marrow has occurred in some patients due to Sr 82 and Sr 85 breakthrough in the eluate when an incorrect solution was used to elute the rubidium Rb 82 generator. Excess radiation exposure has occurred in some patients who received rubidium Rb 82 chloride injections at clinical sites where generator eluate testing appeared insufficient.

You are encouraged to report negative side effects of prescription drugs to the FDA. Visit <u>www.fda.gov/</u> <u>medwatch</u> or call 1-800-FDA-1088.

Please click <u>here</u> for full Prescribing Information for CardioGen-82 (rubidium Rb 82 generator) including boxed WARNING.

CARDIOGEN-82 is manufactured for Bracco Diagnostics Inc., Monroe Township, NJ 08831, by GE Healthcare, Medi-Physics, Inc., South Plainfield, NJ 07080.

CARDIOGEN-82 is a registered trademark of Bracco Diagnostics Inc.





KINEVAC® (Sincalide for Injection)

Indications

KINEVAC® (Sincalide for Injection), is indicated in adults to:

- stimulate gallbladder contraction, as may be assessed by various methods of diagnostic imaging, or to obtain by duodenal aspiration a sample of concentrated bile for analysis of cholesterol, bile salts, phospholipids, and crystals
- stimulate pancreatic secretion (especially in conjunction with secretin) prior to obtaining a duodenal aspirate for analysis of enzyme activity, composition, and cytology
- accelerate the transit of a barium meal through the small bowel, thereby decreasing the time and extent of
 radiation associated with fluoroscopy and x-ray examination of the intestinal tract

IMPORTANT SAFETY INFORMATION

Contraindications

KINEVAC is contraindicated in patients with a history of hypersensitivity to sincalide, including anaphylaxis and anaphylactic shock, or in patients with intestinal obstruction.

Warnings and Precautions

Post-marketing **anaphylaxis**, **anaphylactic shock**, **and other serious hypersensitivity reactions** have been reported during and within one hour following administration of Kinevac. If anaphylaxis or other hypersensitivity reactions occur, immediately discontinue the infusion and initiate appropriate medical treatment.

Stimulation of gallbladder contraction can lead to **small gallbladder stone evacuation**, resulting in lodging in the cystic duct or in the common bile duct.

Kinevac may cause adverse reactions such as **nausea**, **vomiting**, **abdominal pain or cramping**, **dizziness**, **and flushing**. To reduce the risk of adverse reactions, administer Kinevac over 50 minutes for simulation of gallbladder contraction or over 30 minutes to accelerate transit of a barium meal through the small intestine.

Pregnant patients should be advised that Kinevac can effect smooth muscle, which may cause spontaneous abortion or premature induction of labor.

The most common adverse reactions (\geq 20%) include abdominal discomfort or pain, and nausea.

You are encouraged to report negative side effects of prescription drugs to the FDA. Visit <u>www.fda.gov/</u> <u>medwatch</u> or call 1-800-FDA-1088.

Please click here to see the accompanying full Prescribing Information for Kinevac (Sincalide for Injection).

Kinevac is manufactured for Bracco Diagnostics Inc., Monroe Township, NJ 08831, by Fresenius Kabi USA, LLC, Spokane, WA 99207.

Kinevac is a registered trademark of Bracco Diagnostics Inc.





VARIBAR[®] (barium sulfate)

INDICATIONS

VARIBAR® THIN HONEY (barium sulfate) oral suspension, VARIBAR® NECTAR (barium sulfate) oral suspension, and VARIBAR® THIN LIQUID (barium sulfate) oral suspension are radiographic contrast agents indicated for use in modified barium swallow examinations to evaluate the oral and pharyngeal function and morphology in adult and pediatric patients.

VARIBAR[®] HONEY (barium sulfate) oral suspension and VARIBAR[®] PUDDING (barium sulfate) oral paste are radiographic contrast agents indicated for use in modified barium swallow examinations to evaluate the oral and pharyngeal function and morphology in adult and pediatric patients 6 months of age and older.

IMPORTANT SAFETY INFORMATION

CONTRAINDICATIONS

These products should not be used in patients with known or suspected perforation of the gastrointestinal (GI) tract; known obstruction of the GI tract; high risk of GI perforation such as those with a recent GI perforation, acute GI hemorrhage or ischemia, toxic megacolon, severe ileus, post GI surgery or biopsy, acute GI injury or burn, or recent radiotherapy to the pelvis; high risk of aspiration such as those with known or suspected tracheo-esophageal fistula or obtundation; known severe hypersensitivity to barium sulfate or any of the excipients of the product used.

WARNINGS AND PRECAUTIONS

Hypersensitivity Reactions

Barium sulfate preparations contain a number of excipients, including natural and artificial flavors, and may induce serious hypersensitivity reactions. The manifestations include hypotension, bronchospasm and other respiratory impairments, and dermal reactions including rashes, urticaria, and itching. A history of bronchial asthma, atopy, food allergies, or a previous reaction to a contrast agent may increase the risk for hypersensitivity reactions. Emergency equipment and trained personnel should be immediately available for treatment of a hypersensitivity reaction.

Intra-abdominal Barium Leakage

The use of VARIBAR PRODUCTS is contraindicated in patients at high risk of perforation of the GI tract. Administration of VARIBAR PRODUCTS may result in leakage of barium from the GI tract in the presence of conditions such as carcinomas, GI fistula, inflammatory bowel disease, gastric or duodenal ulcer, appendicitis, or diverticulitis, and in patients with a severe stenosis at any level of the GI tract, especially if it is distal to the stomach. The barium leakage has been associated with peritonitis and granuloma formation.

Delayed Gastrointestinal Transit and Obstruction

Orally administered barium sulfate may accumulate proximal to a constricting lesion of the colon, causing obstruction or impaction with development of baroliths (inspissated barium associated with feces) and may lead to abdominal pain, appendicitis, bowel obstruction, or rarely perforation. Patients with the following conditions

are at higher risk for developing obstruction or baroliths: severe stenosis at any level of the GI tract, impaired GI motility, electrolyte imbalance, dehydration, on a low residue diet, taking medications that delay GI motility, constipation, pediatric patients with cystic fibrosis or Hirschsprung disease, and the elderly. To reduce the risk of delayed GI transit and obstruction, patients should maintain adequate hydration after the barium sulfate procedure. When administering VARIBAR PUDDING, consider the administration of laxatives.

Aspiration Pneumonitis

The use of VARIBAR PRODUCTS is contraindicated in patients with trachea-esophageal fistula. Oral administration of barium is associated with aspiration pneumonitis, especially in patients with a history of food aspiration or with compromised swallowing mechanism. Vomiting following oral administration of barium sulfate may lead to aspiration pneumonitis. In patients at risk for aspiration, begin the procedure with a small ingested volume of VARIBAR PRODUCTS. Monitor the patient closely for aspiration, discontinue administration of VARIBAR PRODUCTS if aspiration is suspected, and monitor for development of aspiration pneumonitis.

Systemic Embolization

Barium sulfate products may occasionally intravasate into the venous drainage of the GI tract and enter the circulation as a "barium embolus" leading to potentially fatal complications which include systemic and pulmonary embolism, disseminated intravascular coagulation, septicemia and prolonged severe hypotension. Although this complication is exceedingly uncommon after oral administration of a barium sulfate suspension, monitor patients for potential intravasation when administering barium sulfate.

ADVERSE REACTIONS

The most common adverse reactions are nausea, vomiting, diarrhea, and abdominal cramping. Serious adverse reactions and fatalities include aspiration pneumonitis, barium sulfate impaction, intestinal perforation with consequent peritonitis and granuloma formation, vasovagal and syncopal episodes.

You are encouraged to report negative side effects of prescription drugs to the FDA. Visit <u>www.fda.gov/</u> <u>medwatch</u> or call 1-800-FDA-1088.

Please click here for full Prescribing Information for VARIBAR® THIN LIQUID (barium sulfate) oral suspension.

Please click here for full Prescribing Information for VARIBAR® THIN HONEY (barium sulfate) oral suspension.

Please click here for full Prescribing Information for VARIBAR® NECTAR (barium sulfate) oral suspension.

Please click here for full Prescribing Information for VARIBAR® HONEY (barium sulfate) oral suspension.

Please click here for full Prescribing Information for VARIBAR® PUDDING (barium sulfate) oral paste.

VARIBAR is manufactured by E-Z-EM Canada Inc., for E-Z-EM, Inc., a subsidiary of Bracco Diagnostics Inc., Monroe Twp., NJ 08831.

VARIBAR is a registered trademark of E-Z-EM, Inc.



LIFE FROM INSIDE

Bracco Diagnostics Inc. 259 Prospect Plains Road, Building H Monroe Township, NJ 08831 USA Phone: 609-514-2200 Toll-Free: 1-877-272-2269 (U.S. only) Fax: 609-514-2446

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UNLOCKING THE

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