



PATIENT AFTER PATIENT

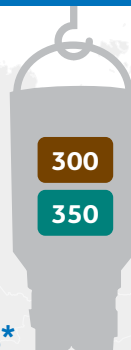
OMNIPAQUE™ (iohexol)



- A contrast media with a wide range of indications¹
- Low rate of immediate adverse events²
- Used in over 800 million procedures to date³
- Listed on the WHO essential drug list⁴

+PLUSPAK™ bottle

- Reduced environmental impact compared to glass bottles⁵⁻⁷
- No risk of glass injuries
- 50% less weight compared to glass bottles⁸



Available in the following concentrations and volumes*

		Volume			
		50ml	100ml	200ml	500ml
Concentration	300 mg/ml	+PLUSPAK	+PLUSPAK	+PLUSPAK	+PLUSPAK
	350 mg/ml	+PLUSPAK	+PLUSPAK	+PLUSPAK	+PLUSPAK

*Availability may vary in each country.

LOCM: low osmolar contrast medium
WHO: World Health Organization



PRESCRIBING INFORMATION OMNIPAQUE™ (iohexol)

Please refer to full national Summary of Product Characteristics (SPC) before prescribing.

Indications and approvals may vary in different countries. Further information available on request.

PRESENTATION Aqueous solution for injection containing iohexol, a non-ionic, monomeric, triiodinated X-ray contrast medium, and available in strengths containing either 140 mg, 240 mg, 300 mg or 350 mg iodine per ml.

INDICATIONS For diagnostic use only. X-ray contrast medium for use in adults and children for urography, phlebography, i.v. DSA, CT, arteriography, cardioangiography and i.a. DSA. Myelography. For use in body cavities: Arthrography, ERP/ERCP, herniography, hysterosalpingography, sialography and use in the G-I tract.

DOSAGE AND ADMINISTRATIONS Adults & children: Dosage varies depending on the type of examination, age, weight, cardiac output and general condition of patient and the technique used (see SPC and package leaflet). For correct use of 500 mL multi-dose bottles, refer to full SPC. Multi-dose bottles must be used within 24 hours of opening.

CONTRAINDICATIONS Hypersensitivity to the active substance or to any of the excipients. Manifest thyrotoxicosis.

WARNINGS AND PRECAUTIONS **Hypersensitivity:** Positive history of allergy, asthma, or untoward reactions to iodinated contrast media indicates a need for special caution. Application should be preceded by a medical history and a strict indication is required in patients with allergic diathesis and known hypersensitivity reactions. Premedication might be considered in patients at risk for intolerance. Bronchial asthma patients are at increased risk of bronchospasm. Iodinated contrast media may provoke serious, life-threatening, fatal anaphylactic/anaphylactoid reactions or other manifestations of hypersensitivity. (See SPC for detail). In imminent state of shock, administration of contrast medium must be terminated immediately and specific intravenous treatment must be initiated. Patients using β -blockers may present with atypical symptoms of anaphylaxis which may be interpreted as vagal reaction. Reactions usually occur within one hour following application however may also occur after hours or days, but are rarely life threatening. **Coagulopathy:** Catheter angiography with contrast media and numerous other factors during catheterization (see SPC for detail) may influence the development of thromboembolic events. *In vitro*, non-ionic contrast media have a weaker coagulation inhibiting effect than ionic contrast media. Care should be taken in patients with homocystinuria. (Risk for thromboembolism). **Hydration:** Assure hydration before and after administration, especially in infants and small children. If necessary, hydrate patient intravenously until excretion of contrast medium is complete, this applies especially to at risk patients (see SPC for detail) where water and electrolyte metabolism must be controlled and symptoms of a dropping serum calcium level must be taken care of. Due to risk of dehydration induced by diuretics, at first, water and electrolyte rehydration is necessary to limit risk of acute renal failure. **Cardio-circulatory reactions:** Patients with serious cardiac disease/cardio-circulatory disease and pulmonary hypertension may develop haemodynamic changes or arrhythmias. This is especially applicable following intracoronary, left and right ventricular application of contrast media. In elderly patients and patients with ischaemic cardiac diseases, reactions may occur. In cardiac insufficiency patients' pulmonary oedema may occur. **CNS disturbances:** Patients with acute cerebral pathology, tumours or a history of epilepsy, alcoholics and drug addicts have increased risk for seizures and neurological reactions. Application can aggravate neurological symptoms caused by metastases, degenerative or inflammatory processes. Intra-arterial injection may induce vasospasm with resulting cerebral ischaemic phenomena. A few patients have experienced temporary hearing loss or even deafness. Patients with cerebrovascular diseases, previous stroke and transitory ischaemic attacks risk increased neurological complications following injection. **Renal reactions:** Application may cause contrast induced nephropathy, impairment of renal function or acute renal failure. Increased risk in patients with pre-existing renal impairment and diabetes mellitus (see SPC for detail). Patients on haemodialysis may receive contrast media for radiological procedures. Correlation of time of injection with the haemodialysis session is unnecessary. **Diabetic patients receiving metformin:** These patients are at risk of development of lactic acidosis after administration, particularly those with impaired renal function. To reduce risk of lactic acidosis, serum creatinine level should be measured prior to intravascular administration and the following precautions undertaken in the following circumstances: Normal serum creatinine (<130 μ mol/litre)/normal renal function: Administration of metformin should stop at time of administration, not resume for 48 hours and only restart if renal function/serum creatinine remains in normal range. Abnormal serum creatinine (>130 μ mol/litre)/impaired renal function: Metformin should be stopped, contrast medium examination delayed for 48 hours and metformin only restarted 48 hours later if serum creatinine is not increased compared to pre-contrast values. **Emergency cases:** Where renal function is impaired or unknown, the physician should evaluate the risk/benefit of the examination. Metformin should be stopped and the patient should be fully hydrated prior to and for 24 hours after contrast medium administration. Renal function, serum lactic acid and blood pH should be monitored, as well as the patient with regard to signs and symptoms of lactacidosis. A pH <7.25 or a lactic acid level of >5 mmol/litre are indicative of lactic acidosis. (See SPC for detail). **Hepatic reactions:** A risk of transient hepatic dysfunction exists. Care is required in patients with severe disturbance of both renal and hepatic function as they may have significantly delayed contrast medium clearance. Patients on haemodialysis may receive contrast media for radiological procedures. Correlation of time of contrast media injection with the haemodialysis session is unnecessary. **Myasthenia gravis:** Administration may aggravate symptoms of myasthenia gravis. **Phaeochromocytoma:** Patients with phaeochromocytoma undergoing interventional procedures, should be given alpha blockers as prophylaxis to avoid hypertensive crisis. **Disturbed thyroid function:** Free iodide in the solutions and iodide released by deiodination influences thyroid function and may induce hyperthyroidism or even thyrotoxic crisis in predisposed patients (see SPC for detail). These patients should have their thyroid function assessed before examination. Before administering, make sure the patient is not about to undergo thyroid scan, function tests or treatment with radioactive iodine, as administration of iodinated contrast agents interferes with hormone assays and iodine uptake by the thyroid gland or metastases from thyroid cancer until urinary iodine excretion returns to normal. Following injection, there is also risk of induction of hypothyroidism. **Anxiety conditions:** A sedative may be administered in the case of marked anxiety. **Sickle cell disease:** Intravenous and intra-arterial injection may promote sickling in individuals homozygous for sickle cell disease. **Further risk factors:** Among patients with autoimmune diseases, serious vasculitis or Stevens-Johnson-like syndromes have been observed. Severe vascular and neurological diseases, present especially in elderly patients, are risk factors for reactions. **Extravasation:** Contrast media may give rise to local pain, oedema and erythema, which usually recedes without sequelae. However, inflammation and tissue necrosis have been seen. Elevating and cooling the affected site is recommended as routine. Surgical decompression may be necessary in cases of compartment syndrome.

Observation-time: Patients must be kept under close observation for 30 minutes following the last injection as the majority of severe reactions occur at this time. **Intrathecal use:** Following myelography the patient should rest for one hour with head and thorax elevated by 20°. Thereafter he/she may ambulate carefully but avoid bending down. The head and thorax should be kept elevated for the first 6 hours if remaining in bed. Patients suspected of having a low seizure threshold should be observed during this period. Outpatients should not be alone for the first 24 hours. **Cerebral arteriography:** In patients with advanced arteriosclerosis, severe hypertension, cardiac decompensation, old age, and previous cerebral thrombosis or embolism and migraine, cardiovascular reactions such as bradycardia and increases or decreases in blood pressure may occur more often. **Arteriography:** Injury of the artery, vein, aorta and adjacent organs, pleurocentesis, retroperitoneal bleeding, spinal cord injury and symptoms of paraplegia may occur. **Paediatric population:** Transient hypothyroidism has been reported in premature infants, neonates and children after administration. It is advisable to monitor thyroid function in premature infants who are particularly sensitive to the effect of iodine. Check thyroid function in neonates during first week of life, following administration to mother during pregnancy. Repeat testing of thyroid function is recommended at 2 to 6 weeks of age, particularly in low birth weight or premature newborns. Nephrotoxic medication should be suspended. The age dependent reduced glomerular filtration rate in infants can result in delayed excretion of contrast agents. Infants, age < 1 year, and neonates are especially susceptible to electrolyte disturbance and haemodynamic alterations.

INTERACTION WITH OTHER MEDICINAL PRODUCTS See SPC for detail.

PREGNANCY AND LACTATION The safety of OMNIPAQUE in human pregnancy has not been established (see SPC for detail). OMNIPAQUE should not be used in pregnancy unless considered essential. Breast feeding may be continued normally when iodinated contrast media are given to the mother. Apart from avoidance of exposure to radiation, the sensitivity of the foetal thyroid gland to iodine should be taken into account when risk and benefit are evaluated.

ABILITY TO DRIVE AND USE MACHINES It is not advisable to drive a car or use machines for one hour after the last injection or for 24 hours following intrathecal procedure.

UNDESIRABLE EFFECTS **All routes of administration:** Hypersensitivity reactions may occur irrespective of the dose and mode of administration and mild symptoms may represent the first signs of a serious anaphylactoid reaction/shock. Administration of the contrast medium must be discontinued immediately and, if necessary, specific therapy instituted via the vascular access. Transient increase in S-creatinine is common after iodinated contrast media, contrast induced nephropathy may occur. Iodism or "iodide mumps" is a very rare complication of iodinated contrast media resulting in swelling and tenderness of the salivary glands for up to approximately 10 days after the examination. **Common:** Feeling hot. **Uncommon:** Nausea, hyperhidrosis, cold feeling, vasovagal reactions. **Rare:** Hypersensitivity (See SPC for detail). **Intravascular use (Intraarterial and Intravenous use):** **Common:** Transient changes in respiratory rate, respiratory distress.

Uncommon: Pain and discomfort. **Intrathecal use:** Undesirable effects following intrathecal use may be delayed and present some hours or even days after the procedure. The frequency is similar to lumbar puncture alone. Headache, nausea, vomiting or dizziness may largely be attributed to pressure loss in the sub-arachnoid space resulting from leakage at the puncture site. Excessive removal of cerebrospinal fluid should be avoided in order to minimise pressure loss. **Very common:** Headache (may be severe and prolonged). **Common:** Nausea, vomiting. **Uncommon:** Aseptic meningitis (including chemical meningitis) **Use in Body Cavities: Endoscopic Retrograde Cholangiopancreatography (ERCP):** **Common:** Elevation of amylase levels, pancreatitis. **Oral use: Very common:** Diarrhoea. **Common:** Nausea, vomiting. **Uncommon:** Abdominal pain. **Hysterosalpingography (HSG): Very common:** Lower abdominal pain. **Arthrography: Very common:** Pain. (See SPC for detail).

INSTRUCTIONS FOR USE AND HANDLING Like all parenteral products, OMNIPAQUE should be inspected visually for particulate contamination, discolouration and the integrity of the container prior to use. The product should be drawn into the syringe immediately before use. Vials and bottles are intended for single use only; any unused portions must be discarded. OMNIPAQUE may be warmed to body temperature (37°C) before administration.

MARKETING AUTHORISATION HOLDER GE Healthcare AS, Nycoveien 1-2, P.O. Box 4220 Nydalen, NO-0401 Oslo, Norway.

CLASSIFICATION FOR SUPPLY Subject to medical prescription (POM).

MARKETING AUTHORISATION NUMBER PL 00637/0034, 0035, 0036, 0038.

DATE OF REVISION OF TEXT November 2018.

PRICE 350mg/ml, 10x50ml: £208.01.

Adverse events should be reported.

Reporting forms and information can be found at <https://yellowcard.mhra.gov.uk/>. Adverse events should also be reported to GE Healthcare at gpv.drugsafety@ge.com.

References:

1. Omnipaque Summary of Product Characteristics (UK), September 2018.
2. Gomi *et al.* Are there any differences in acute adverse reactions among five low-osmolar non-ionic iodinated contrast media? *Eur Radiol* 2010; 20: 1631-5.
3. GE Healthcare Data of File_Omnipaque Demand, 2020.
4. WHO Model List of Essential Medicines, 21st List, June 2019
5. Marshall G. Sharps injuries among radiographers: Dangers associated with opening bottles of contrast agent. *Radiography* 2008; 14: 128-34.
6. Gricar J *et al.* The Economic and Safety Impact of Glass Versus Polymer Containers in a Radiology Department. *Radiol Manage* 2007; SEP/OKT: 34-42.
7. Dhaliwal H *et al.* A life cycle assessment of packaging options for contrast media delivery: comparing polymer bottle vs. glass bottle. *Int J Life Cycle Assess* 2014;19: 1965-73.
8. Morrison G, Odle T. Contrast Media Handling. *Radiol Technol* 2007; 79: 1-5.

GE Healthcare Limited, Pollards Wood, Nightingales Lane,
Chalfont St Giles, Buckinghamshire, England HP8 4SP
www.gehealthcare.com

© 2020 General Electric Company.

GE, the GE Monogram, +PLUSPAK and Omnipaque are trademarks of General Electric Company.

06-2020 JB8554/JB81121GB/DGT/OS UK

