



213710

PART III – English

PART III – Danish

ENGLISH

DRAX IMAGE**Medronate DRAXIMAGE 10 mg**
Kit for radiopharmaceutical preparation**1.3 Product Information****1.3.1 SPC, Labelling and Package Leaflet**

- Summary of Product Characteristics (English)
- Labelling
- Package Leaflet (English)

Please note that the SPC was drafted in conjunction with the proposed expiry date of 24 months for the finished product and 12 hours for the reconstituted product. However, should the Board reevaluate the expiry dates, we will amend the SPC accordingly.

SUMMARY OF THE PRODUCT CHARACTERISTICS: LIST OF HEADINGS**1. TRADE NAME OF THE MEDICINAL PRODUCT**

Medronate DRAXIMAGE 10 mg, Kit for radiopharmaceutical preparation

2. QUALITATIVE AND QUANTITATIVE COMPOSITION

Each vial contains 10 mg of medronic acid.

The radioisotope is not part of the kit.

For a full list of excipients, see section 6.1.

3. PHARMACEUTICAL FORM

Kit for radiopharmaceutical preparation

To be reconstituted with sodium pertechnetate (^{99m}Tc) solution for injection (not included in this kit).

The medicinal product is a white freeze-dried plug that may break into powder.

4. CLINICAL PARTICULARS**4.1 Therapeutic indications**

This medicinal product is for diagnostic use only.

After reconstitution with sodium pertechnetate (^{99m}Tc) solution, the agent is used for bone scintigraphy for the detection of areas of altered osteogenesis associated with:

Neoplasms:

- The detection, staging, and evaluation of response to therapy of primary bone tumors (e.g. Ewing's sarcoma, osteosarcoma)
- The detection and follow-up of bone metastases

Non-neoplastic lesions:

- As an aid in the evaluation of:
 - Osteomyelitis
 - Avascular necrosis
 - Paget's disease
 - Stress fractures, shin splints
 - Loose or infected joint prosthesis
 - Reflex sympathetic syndrome
 - Bone graft viability

Since areas of altered osteogenesis can be detected with high sensitivity but low specificity, additional examinations may be necessary.

4.2 Posology and method of administration**Posology**

Adults: The optimal activity of technetium (^{99m}Tc) medronate injection has not been systematically investigated. Injected activity may vary according to patient characteristics, imaging procedures, and imaging equipment.

The average activity administered by a single intravenous injection is 500 MBq (300-740 MBq) as recommended by the EANM, 2003. Other activities may be justifiable. For markedly obese adult patient, activity as high as 11 – 13 MBq / kg may be needed as recommended by SNM, 2003.

Newborns, infants, children and adolescents: The optimal pediatric activity has not been systematically investigated. The activity to be administered to a child should be a fraction of the adult activity calculated from the body weight according to the following table:

EANM Paediatric Task Group Pediatric Activity Schedule

Weight	% adult activity	Weight	% adult activity	Weight	% adult activity
3 Kg	10%	22 Kg	50%	42 Kg	78%
4 Kg	14%	24 Kg	53%	44 Kg	80%
6 Kg	19%	26 Kg	56%	46 Kg	82%
8 Kg	23%	28 Kg	58%	48 Kg	85%
10 Kg	27%	30 Kg	62%	50 Kg	88%
12 Kg	32%	32 Kg	65%	52-54 Kg	90%
14 Kg	36%	34 Kg	68%	56-58 Kg	92%
16 Kg	40%	36 Kg	71%	60-62 Kg	96%
18 Kg	44%	38 Kg	73%	64-66 Kg	98%
20 Kg	46%	40 Kg	76%	68 Kg	99%

In children, a minimum activity of 20 – 40 MBq is necessary in order to obtain images of sufficient quality.

Patients aged 65 and older: The need for dosage adjustments in geriatric populations has not been systematically investigated. Decreased renal function (see below) and decreased osteogenesis in the elderly may affect the uptake, distribution, or elimination of technetium (^{99m}Tc) medronate injection.

Patients with renal impairment: The need for dosage adjustments as a result of renal failure has not been systematically investigated.

Patients with hepatic impairment: The need for dosage adjustments as a result of liver failure has not been systematically investigated. Since technetium (^{99m}Tc) medronate is almost exclusively eliminated by the kidneys, liver failure would not be expected to require an adjustment to the activity administered.

Method of administration of and scintigraphy examination:

For patient preparation see section 4.4.

This medicinal product must be reconstituted before use. When reconstituted with sodium pertechnetate (^{99m}Tc) solution, the clear isotonic solution has a pH of 6.5 to 7.5.

This product is only for intravenous injection.

This medicinal product must be exclusively administered by authorised personnel (see “**General warnings**” in section 4.4).

Because of potential tissue damage, extravasal injection of this radioactive product has to be strictly avoided.

Image acquisition parameters and procedures will vary depending upon the clinical question and the type of equipment available. The optimal time from dosing to imaging has not been systematically investigated. Images may be obtained early after injection (in the so-called 3-phase bone scintigraphy procedure) to search for abnormal blood flow supply to a part of the skeleton, and some minutes later to evidence a potential rapid uptake by some part of the skeleton. Images are generally acquired 2 to 5 hours after the administration of technetium (^{99m}Tc) medronate injection. Later images (6-24 h) result in a higher target-to-background ratio and may permit better evaluation of the pelvis if this was obscured by bladder activity on the routine (2-5 h) images. Six- to 24-h delayed imaging may be particularly helpful in patients with renal insufficiency or peripheral circulatory disorders and those with urinary retention.

For detailed instructions on the correct administration/use of this product, see section 12.

4.3 Contraindications

Hypersensitivity to the active substance or to any of the excipients.

4.4 Special warnings and precautions for use**Indication of the examination**

For all patients: the radiation exposure must be justifiable by the expected diagnostic information achieved with the lowest possible radiation dose.

In pediatric population (aged less than 18): it should be taken into consideration that the effective dose per MBq is higher in children than in adults (see section 11 “**Dosimetry**”). Particular attention should be paid to the relatively higher radiation exposure of the epiphyses in growing bone.

Patient preparation

The patient should be well hydrated before the start of the examination and urged to void as often as possible during the first hours after the study in order to reduce radiation.

To avoid accumulation of tracer in musculature, it is advised that strenuous exercise be discouraged immediately after injection until satisfactory bone imaging has been completed.

General warnings

Inadvertent or accidental subcutaneous administration of technetium (^{99m}Tc) medronate should be avoided as perivascular inflammation has been described for technetium (^{99m}Tc) diphosphonates.

This radiopharmaceutical may be received, used and administered only by authorised persons in designated clinical settings. Its receipt, storage, use, transfer and disposal are subject to the regulations and/or appropriate licences of the local competent official organisations. Radiopharmaceuticals should be prepared by the user in a manner which satisfies both radiation safety and pharmaceutical quality requirements. Appropriate aseptic precautions, should be taken, complying with the requirements of Good Manufacturing Practice for pharmaceuticals.

The possibility of the occurrence of hypersensitivity reactions including serious anaphylactic/anaphylactoid reactions should always be considered. If a hypersensitivity reaction occurs the administration of the medicinal product must be interrupted immediately and — if necessary — an intravenous treatment initiated. As in case of emergency immediate action is required, advanced life support facilities including the respective medicinal products necessary for treatment should be readily available.

4.5 Interaction with other medicinal product and other forms of interaction

Potential interactions have been described. An increased extraosseous accumulation of the radiotracer is reported for iron containing compounds, acute administration of diphosphonate, several cytostatic and immunosuppressive medicinal products, aluminium-containing antacids, X-ray contrast media, antibiotics, anti-inflammatory substances, injections of calcium gluconate or heparin calcium and γ -amino caproic acid.

As Etidronate inhibits bone absorption of medronate, bone scintigraphy should be carried out before or earliest 2 – 4 weeks after etidronate administration.

4.6 Pregnancy and lactation**Women of childbearing potential**

When it is necessary to administer radioactive medicinal products to women of childbearing potential, information should always be sought about pregnancy. Any woman who has missed a period should be assumed to be pregnant until proven otherwise. Where uncertainty exists, alternative techniques which do not involve ionising radiation should be considered.

Pregnant women

Radionuclide procedures carried out on pregnant women also involve radiation doses to the foetus. Only imperative investigations should be carried out during pregnancy when likely benefit exceeds the risk incurred by mother and foetus.

Based on published models, administration of 500 MBq technetium (^{99m}Tc) medronate injection to a patient with normal bone uptake results in an absorbed dose to the uterus of 3.15 mGy. The dose decreases to 1.45 mGy in patients with high bone uptake and/or severely impaired kidney function. Published reports in pregnant patients have estimated radiation doses to the fetus to have been 2.6 to 4.6 μ Gy/MBq (1.3 to 2.3 mGy/500 MBq). Although this level of radiation is unlikely to present increased risk to the foetus, use of Medronate DRAXIMAGE during pregnancy is not recommended unless clearly necessary.

Breast-feeding mothers

Before administering a radioactive medicinal product to a mother who is breast feeding, consideration should be given as to whether the investigation could be reasonably delayed until the mother has ceased breast feeding and as to whether the most appropriate choice of radiopharmaceutical has been made, bearing in mind the secretion of activity in breast milk.

If the administration is considered necessary, breast-feeding should be interrupted for 12 hours and the expressed feeds discarded.

4.7 Effects on the ability to drive and to use machines

No studies on the effects on the ability to drive and use machines have been performed.

4.8 Undesirable effects

For all patients: the radiation exposure must be justifiable by the expected diagnostic information achieved with the lowest possible radiation dose. Exposure to ionising radiation can lead to cancer or development of hereditary defects. These effects can be expected with a low probability. After administration of the maximum recommended activity of this product, the effective dose is about 4 mSv.

In pediatric population (aged less than 18): it should be taken into consideration that the effective dose per MBq is higher in children than in adults (see section 11 “**Dosimetry**”)

Hypersensitivity reactions, including very rare (< 1/10,000) life-threatening anaphylaxis, have been reported following technetium (^{99m}Tc) medronate injection. These reactions have occurred 8 to 48 hours following the administration of medronate. Although variable in presentation, the reported cases have included one or more of generalized skin rash, oliguria and jaundice, vasculitis, signs consistent with erythema multiforme, and severe systemic illness consisting of nausea, headache, chills, cough, increased myalgias, and fever.

Cases of local rash or generalized rash with itching and dermal irritation have been reported. Onset of the reaction is commonly several hours post-injection and it may last up to 48 hours. Treatment with a non-sedative histamine H₁ antagonist is helpful.

Other reactions reported include a fall in blood pressure and hypotensive symptoms, nausea, vomiting, cutaneous vasodilatation, headache, malaise, oedema in the extremities and arthralgia.

4.9 Overdose

In the event of the administration of a radiation overdose with technetium (^{99m}Tc) medronate injection, the absorbed dose to the patient should be reduced where possible by increasing the elimination of the radionuclide from the body by forced diuresis and frequent bladder voiding.

5. PHARMACOLOGICAL PROPERTIES**5.1 Pharmacodynamic properties**

Pharmacotherapeutic group: Diagnostic radiopharmaceuticals; skeleton; Technetium [^{99m}Tc] compounds, ATC code: V09B A02

When administered in usual doses Medronate DRAXIMAGE 10 mg shows no pharmacodynamic effects detectable clinically or/and analytically.

5.2 Pharmacokinetic properties

In the first 3 minutes after injection of technetium (^{99m}Tc) medronate injection, there is soft tissue uptake and renal accumulation. With increasing clearance from these compartments, progressive accumulation in the skeletal system is seen, initially in the lumbar vertebrae and the pelvic region. Blood clearance proceeds in 3 phases: 1 – rapid phase (T_{1/2} = 3.5 min.), 2 – medium phase (T_{1/2} = 27 min.) and 3 – slow phase (T_{1/2} = 144 min.). The rapid phase represents the transfer of the radioactive substance from the circulation into the extravascular system, the medium phase involving skeletal uptake. The slow phase is probably associated with the release of the technetium (^{99m}Tc) medronate injection complex from a protein bound complex.

About 50% of the activity injected accumulates in the skeleton. Maximum bone accumulation is reached 1 hour after injection and remains practically constant up to 72 hours. The circulating unbound complex is eliminated via the kidneys. The peak of activity through the kidneys is reached after approximately 20 minutes. Within 1 hour, with normal renal function, around 32% of the total quantity of unbound complex has undergone glomerular filtration, within 2 hours 47.5% and within 6 hours 60%. The quantity of phosphonate, within the recommended activity range, has no effect on renal excretion. The quantity eliminated via the intestines is insignificant.

The level of accumulation in the skeletal system depends on the circulation and the extent of regeneration of basic bone material. Whole body retention of 31.6 ± 5% is reported in healthy individuals, 38.2 ± 7% in those with extensive metastases, 49 ± 11% in primary hyper-parathyroidism and 45% in osteoporosis.

5.3 Preclinical safety data

Adverse events in animals after intravenous administration of medronate complex were only observed at doses sufficiently in excess of therapeutic doses in humans. Repeated administration of very high doses of diphosphonates can cause mineralization disorders. Mutagenicity studies and long-term carcinogenicity studies have not been carried out.

ENGLISH

DRAX IMAGE**Medronate**
DRAXIMAGE 10 mg
Kit for radiopharmaceutical preparation

Medronic acid

PACKAGE LEAFLET:
INFORMATION FOR THE USER**Read all of this leaflet carefully before you start using this medicinal product.**

- Keep this leaflet. You may need to read it again.
- If you have any further questions, ask your doctor or pharmacist.
- If any of the side effects gets serious, or if you notice any side effects not listed in this leaflet, please tell your doctor or pharmacist.

In this leaflet:

1. What Medronate DRAXIMAGE is and what it is used for
2. Before you use Medronate DRAXIMAGE
3. How to use Medronate DRAXIMAGE
4. Possible side effects
5. How to store Medronate DRAXIMAGE
6. Further information

1. What Medronate DRAXIMAGE is and what it is used for

This product is for diagnostic use only.

Medronate DRAXIMAGE is a radiopharmaceutical product used when a diagnosis is made with the aid of radioisotopes.

This medicinal product is a powder that, when mixed with a solution of the radioactive substance sodium pertechnetate (Tc-99m), yields an injection fluid containing technetium (^{99m}Tc) medronate.

When technetium (^{99m}Tc) medronate is injected, it is taken up temporarily by the bones. Since the product contains a small amount of radioactivity, it can be visualised from outside the body using special cameras, and an image can be taken (which is known as a scan). This scan shows the distribution of the radioactivity in the bones.

By means of a scan, your doctor can then determine whether there is an abnormality in the growth of the skeleton.

2. Before you use Medronate DRAXIMAGE Do not use Medronate DRAXIMAGE

Do **not** use Medronate DRAXIMAGE if you are **allergic** (hypersensitive) to medronic acid (MDP, medronate) or one of the other ingredients in Medronate DRAXIMAGE.

In case of doubt, it is important to consult your doctor before this product is administered.

Take special care with Medronate DRAXIMAGE

Technetium (^{99m}Tc) medronate is administered by a doctor in a single dose. There are no precautionary measures for which you are responsible. The use, handling and waste disposal of radioactive substances are regulated by strict laws. As a result, Medronate DRAXIMAGE will always be administered in a hospital or under similar clinical circumstances. The product may only be handled and administered by personnel that is trained and qualified to work safely with radioactive material.

During the use of Medronate DRAXIMAGE a small amount of radioactivity is administered. The associated risk is very small. Your doctor will only carry out the investigation if he/she is convinced that the anticipated benefit of the investigation outweighs the risks.

If you are under the age of 18, the radiation exposure is higher, especially in growing bone. Your doctor will consider this.

Using other medicines

Please tell your doctor if you are taking or have recently taken any other medicines, including medicines obtained without a prescription.

Certain other medicines may influence the results obtained using Medronate DRAXIMAGE. Some examples are: compounds containing iron, single doses of bisphosphonate, various anti-cancer medicines and medicines that suppress the immune system, aluminium-containing antacids, X-ray contrast media, antibiotics, anti-inflammatory agents, injections of calcium gluconate, heparin calcium, gamma-aminocaproic acid and etidronate.

Pregnancy and breastfeeding

It is important to tell your doctor whether there is a chance you may be pregnant or if you are breastfeeding. The use of radiopharmaceuticals during pregnancy should be considered carefully. Your doctor will only administer this product during pregnancy if a benefit is expected that would outweigh the risks.

If you are breastfeeding, please tell your doctor because he/she may decide either to postpone the investigation until you have stopped breastfeeding or ask you to stop breastfeeding temporarily.

Driving and using machines

This medicinal product does not affect the ability to drive or use machines.

3. How to use Medronate DRAXIMAGE

Always use Medronate DRAXIMAGE exactly as your doctor has told you. You should check with your doctor if you are not sure.

Your doctor will decide what quantity of radioactive technetium (^{99m}Tc) medronate should be used. This will be the minimum amount required to obtain a clear scan with sufficient information for the doctor. The amount can vary from 300 to 740 MBq (MBq = Mega Becquerel, the unit used to express radioactivity). For very obese adult patients, the amount can vary from 11 to 13 MBq/kg. In children, lower doses are used, depending their body weight.

- Medronate DRAXIMAGE is administered by injection in a vein.
- A single dose is sufficient to give your doctor the information desired. Before the scan is made you will be asked to urinate in order to increase the quality of the scan.
- The scans can be carried out any time after you have received the injection. Precisely when the scan will be carried out depends on the type of investigation.
- So that the product can be used as efficiently as possible, severe exertion immediately after the injection is discour-



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DANISH

DRAX IMAGE**Medronate**
DRAXIMAGE 10 mg

sæt til præparation af radioaktivt lægemiddel

Medroninsyre

INDLÆGSSEDDEL:
INFORMATION TIL BRUGEREN**Læs denne indlægsseddel grundigt, inden du begynder at bruge medicinen.**

- Gem indlægssedlen. Du kan få brug for at læse den igen.
- Spørg lægen eller sundhedspersonalet hvis der er mere, du vil vide.
- Tal med lægen eller sundhedspersonalet, hvis en bivirkning bliver værre, eller du får bivirkninger, som ikke er nævnt her.

Oversigt over indlægssedlen:

1. Virkningen af Medronate DRAXIMAGE og hvad du får det for
2. Det skal du vide om Medronate DRAXIMAGE
3. Sådan bliver du behandlet med Medronate DRAXIMAGE
4. Bivirkninger
5. Opbevaring
6. Yderligere oplysninger

1. Virkningen af Medronate DRAXIMAGE og hvad du får det for

Kun til diagnostisk brug.

Medronate DRAXIMAGE er et radioaktivt lægemiddel. Lægemidlet bruges til at stille en diagnose ved hjælp af radioaktive isotoper.

Lægemidlet er et pulver, der skal blandes til injektionsvæske med en opløsning af det radioaktive stof natriumpertechnetat (^{99m}Tc). Denne injektionsvæske indeholder technetium (^{99m}Tc) medronat.

Når technetium (^{99m}Tc) indsprøjtes, bliver det optaget midlertidigt af knoglerne. Da lægemidlet indeholder en lille mængde radioaktivitet, kan det »fotograferes«
udvendigt på kroppen med specielle kameraer, der kan tage et billede. Dette billede hedder et scanningsbillede. Dette scanningsbillede viser fordelingen af radioaktiviteten i knoglerne.

Din læge bruger scanningsbilledet til at fastslå, om dit skelet vokser unormalt.

2. Det skal du vide om Medronate DRAXIMAGE

Du må ikke få Medronate DRAXIMAGE, hvis du er **overfølsom** (allergisk) over for medroninsyre (MDP, medronat) eller et af de øvrige indholdsstoffer i Medronate DRAXIMAGE.

Er du i tvivl, så tal med lægen, inden du får Medronate DRAXIMAGE.

Lægen eller sundhedspersonalet vil være ekstra forsigtig med at behandle dig med Medronate DRAXIMAGE

Technetium (^{99m}Tc) medronat bliver indsprøjet af en læge som én dosis. Der er ingen sikkerhedsforanstaltninger, som du selv er ansvarlig for. Der er strenge love vedrørende brug, håndtering og bortskaffelse af radioaktive stoffer. Derfor indsprøjtes Medronate DRAXIMAGE altid kun på hospitalet. Lægemidlet bliver kun håndteret og indsprøjet af sundhedspersonale, der er uddannet og kvalificeret i sikker omgang med radioaktivt materiale.

Under brugen af Medronate DRAXIMAGE får du indsprøjet en lille mængde radioaktivitet. Det medfører kun en meget lille risiko. Din læge laver kun undersøgelsen, hvis han vurderer, at fordelene ved undersøgelsen opvejer ulemperne.

Hvis du er under 18 år, er bestrålingen mere koncentreret. Dette gælder især for knogler, der vokser. Din læge tager dette i betragtning.

Brug af anden medicin

Fortæl det altid til lægen eller sundhedspersonalet, hvis du bruger anden medicin eller har brugt anden medicin for nylig. Dette gælder også medicin, som ikke er på recept, medicin købt i udlandet, naturlægemidler samt stærke vitaminer og mineraler.

Anden medicin kan påvirke virkningen af Medronate DRAXIMAGE. Eksempler: stoffer, der indeholder jern, enkelt-doser af bisphosphonat, forskellige typer kræftmedicin og medicin, der svækker immunsystemet, syreneutraliserende lægemidler, der indeholder aluminium, røntgenkontraststof, bakteriedræbende medicin, betændelseshæmmende midler, indsprøjtninger af calciumgluconat, heparincalcium, gamma aminocaprinsyre og etidronat.

Graviditet og amning

Hvis der er mulighed for, at du er gravid, eller hvis du ammer, skal du fortælle det til din læge. Brug af radioaktive lægemidler under graviditet skal overvejes nøje. Du vil normalt ikke få Medronate DRAXIMAGE, hvis du er gravid. Lægen vil vurdere det for den enkelte patient.

Hvis du ammer, skal du fortælle det til lægen. Lægen vil enten udskyde undersøgelsen, til du stopper med at amme eller bede dig om at stoppe midlertidigt.

Trafik- og arbejdssikkerhed

Medronate DRAXIMAGE påvirker ikke arbejdssikkerheden eller evnen til at færdes sikkert i trafikken.

3. Sådan bliver du behandlet med Medronate DRAXIMAGE

Lægen kan fortælle dig, hvilken dosis du får og hvor tit, du skal have den. Er du i tvivl, så spørg lægen eller sundhedspersonalet. Det er kun lægen, der kan ændre dosis.

Din læge bestemmer, hvilken dosis radio

ning. Tidsrummet afhænger af de forskellige undersøgelser.

- Undgå større anstrengelser, når du har fået din indsprøjtning. Scanningsbillets kvaliteten bliver bedre, når du forholder dig i ro.

Din læge råder dig måske til at drikke meget væske, så det radioaktive lægemiddel kommer hurtigere ud af kroppen. Dette er helt normalt, når der bruges radioaktive lægemidler til diagnostik. Din læge giver dig måske også andre nødvendige råd efter brugen af dette lægemiddel.

Hvis du har fået for meget Medronate DRAXIMAGE:

Medronate DRAXIMAGE indsprøjetes af en læge under strengt kontrollerede forhold. Det er derfor usandsynligt, at du får for meget af lægemidlet. Hvis det usandsynlige alligevel skulle ske, vil din læge tage de nødvendige forholdsregler.

Din læge råder dig måske også til at drikke meget væske, så det radioaktive lægemiddel kommer hurtigere ud af kroppen.

Spørg lægen eller sundhedspersonalet, hvis der er mere, du vil vide om brugen af dette lægemiddel.

4. Bivirkninger

Medronate DRAXIMAGE kan som al anden medicin give bivirkninger, men ikke alle får bivirkninger.

Der er forekommet tilfælde af lokalt udslæt eller generelt udslæt med kløe og hudirritation få timer efter indsprøjtningen.

Der kan meget sjældent (det sker hos færre end 1 ud af 10.000 patienter) forekomme alvorlig, livstruende overfølsomhed (allergiske reaktioner).

Der kan i sjældne tilfælde forekomme følgende bivirkninger: et fald i blodtrykket samt symptomer, der er forbundet med lavt blodtryk, kvalme, opkastning, hovedpine, utilpashed, hævede fingre og tæer samt ledsmerter.

Tal med lægen eller sundhedspersonalet, hvis en bivirkning bliver værre, eller du får bivirkninger, som ikke er nævnt her.

5. Opbevaring

Opbevares utilgængeligt for børn.

Brug ikke Medronate DRAXIMAGE efter den udløbsdato, der står på ampullen og på pakningen. Udløbsdatoen er den sidste dag i den nævnte måned.

Frysetørret produkt: Opbevar ikke Medronate DRAXIMAGE i køleskab eller fryser.

Fortyndet produkt: Opbevar ikke Medronate DRAXIMAGE ved temperaturer over 25 °C. Opbevar ikke Medronate DRAXIMAGE i køleskab eller fryser.

Holdbarhed efter fortynding: 12 timer

Opbevar Medronate DRAXIMAGE i overensstemmelse med gældende nationale regler for radioaktivt materiale.

Efter fortynding skal ubrugte radioaktive lægemidler og materialeaffald håndteres som radioaktivt affald og bortskaffes i overensstemmelse med lokale regler.

6. Yderligere oplysninger

Medronate DRAXIMAGE indeholder

- Aktivt stof: medroninsyre. Hver ampul indeholder 10 mg medroninsyre.
- Øvrige indholdsstoffer: p-aminobenzoesyre, tin(II)chlorid dihydrat, natriumhydroxid og saltsyre 1N under kvælstof.

Medronate DRAXIMAGE udseende og pakningsstørrelser

Medronate DRAXIMAGE 10 mg er et sæt til præparation af radioaktivt lægemiddel.

Lægemidlet er et hvidt pulver, der er frysetørret.

Det skal fortyndes med en opløsning af natriumpertechnetat (^{99m}Tc) til injektionsvæske (følger ikke med i dette sæt). Lægemidlet er en gennemsigtig opløsning, når det er fortyndet.

Lægemidlet leveres i en farveløs 10 ml ampul af glas, som er beregnet til flere doser. Ampullen indeholder 10 mg medroninsyre.

Pakningsstørrelser: 5, 10, 30 eller 100 ampuller. Ikke alle pakningsstørrelser er nødvendigvis markedsført.

Indehaver af markedsføringstilladelsen og fremstillere

Indehaver af markedsføringstilladelsen DRAXIMAGE (UK) Limited
5 Old Bailey, 2nd floor
London EC4M 7BA
Storbritannien

Fremstillere

IDB Holland B.V.
5110 AB Baarle-Nassau
Holland

Dette lægemiddel er godkendt i EØS under følgende navne:

- Austria
Medronsäure DRAXIMAGE 10 mg Kit für ein radioaktives Arzneimittel
- Belgium
Médronate DRAXIMAGE 10 mg Trousse pour préparation radiopharmaceutique
- Czech Republic
DRAXIMAGE MDP
- Denmark
Medronate DRAXIMAGE 10 mg, sæt til præparation af radioaktivt lægemiddel
- France
Médronate DRAXIMAGE 10 mg Trousse pour préparation radiopharmaceutique
- Germany
Medronsäure DRAXIMAGE 10 mg Kit für ein radioaktives Arzneimittel
- Ireland
Medronate DRAXIMAGE 10 mg kit for radiopharmaceutical preparation
- Italy
Medronate DRAXIMAGE 10 mg kit per preparazione radiofarmaceutica
- Poland
Medronian DRAXIMAGE 10 mg Zestaw do sporzadzania preparatu radiofarmaceutycznego
- Portugal
Ácido Medrónico DRAXIMAGE 10 mg Conjunto para preparações radiofarmacêuticas
- Spain
Medronato DRAXIMAGE 10 mg Kit para preparación radiofarmacéutica
- Netherlands
Medronate DRAXIMAGE 10 mg Kit voor radiofarmaceutische preparaat
- UK
Medronate DRAXIMAGE 10 mg kit for radiopharmaceutical preparation

Denne indlægsseddel blev sidst revideret 14 April 2008

aged until a satisfactory image has been obtained.

Your doctor may advise you to drink a lot to help the traces of radioactivity leave your body more quickly. This is normal when using diagnostic radiopharmaceuticals. Your doctor will also tell you about any other steps you may need to take following the use of this product.

If you use more Medronate DRAXIMAGE than you should

Since Medronate DRAXIMAGE is administered under strictly controlled circumstances by a doctor, it is unlikely that you will be given an overdose. Should this happen nonetheless, the doctor will take appropriate measures.

Your doctor may then also advise you to drink a lot to help the traces of radioactivity leave your body more quickly.

If you have any further questions on the use of this product, ask your doctor or pharmacist.

4. Possible side effects

Like all medicines, Medronate DRAXIMAGE can cause side effects, although not everybody gets them.

Cases of local rash or generalised rash with itching and skin irritation have been observed a few hours after the injection. Very rarely (in less than 1 in 10,000 patients) severe, life-threatening allergic (hypersensitivity) reactions may occur.

The following side effects may appear in rare cases: a drop in blood pressure and symptoms that accompany low blood pressure, nausea, vomiting, headache, malaise, swelling of the fingers and toes and pain in the joints.

If any of the side effects gets serious or if you notice any side effects not listed in this leaflet, please tell your doctor or pharmacist.

5. How to store Medronate DRAXIMAGE

Keep out of the reach and sight of children.

Do not use Medronate DRAXIMAGE after the expiry date which is stated on the vial and the box. The expiry date refers to the last day of that month.

Lyophilized product: Do not refrigerate or freeze.

Reconstituted product: Do not store above 25°C. Do not refrigerate or freeze.

Shelf life after reconstitution: 12 hours

Storage should be in accordance with national regulations for radioactive material.

Following reconstitution, unused radiopharmaceutical and material waste should be handled as radioactive waste and disposed of in accordance with local requirements.

6. Further information

What Medronate DRAXIMAGE contains

- the active substance is medronic acid, Each vial contains 10 milligrams of medronic acid.
- the other ingredients are: p-aminobenzoic acid, tin(II) chloride dihydrate, sodium hydroxide, and hydrochloric acid 1N under nitrogen.

What Medronate DRAXIMAGE looks like and the contents of the pack
Medronate DRAXIMAGE 10 mg, is a kit for radiopharmaceutical preparation.

This medicinal product is a white freeze-dried plug that may break into powder.

It has to be reconstituted with sodium pertechnetate (^{99m}Tc) solution for injection (not included in this kit). Once reconstituted, the medicinal product is a clear solution.

This medicinal product is supplied as a 10 mL colourless multidose glass vial containing 10 milligrams of medronic acid.

Pack sizes: 5, 10, 30 or 100 vials. Not all pack size may be marketed.

Marketing authorisation holder and Manufacturer

Marketing Authorisation Holder
DRAXIMAGE (UK) Limited
5 Old Bailey, 2nd floor
London EC4M 7BA
United Kingdom

Manufacturer responsible for batch release

IDB Holland B.V.
5110 AB Baarle-Nassau
The Netherlands

This medicinal product is authorized in the member states of the EEA under the following names:

- Austria
Medronsäure DRAXIMAGE 10 mg Kit für ein radioaktives Arzneimittel
- Belgium
Médronate DRAXIMAGE 10 mg Trousse pour préparation radiopharmaceutique
- Czech Republic
DRAXIMAGE MDP
- Denmark
Medronate DraxImage 10 mg, sæt til præparation af radioaktivt lægemiddel
- France
Médronate DRAXIMAGE 10 mg Trousse pour préparation radiopharmaceutique
- Germany
Medronsäure DRAXIMAGE 10 mg Kit für ein radioaktives Arzneimittel
- Ireland
Medronate DRAXIMAGE 10 mg kit for radiopharmaceutical preparation
- Italy
Medronate DRAXIMAGE 10 mg kit per preparazione radiofarmaceutica
- Poland
Medronian DRAXIMAGE 10 mg Zestaw do sporzadzania preparatu radiofarmaceutycznego
- Portugal
Ácido Medrónico DRAXIMAGE 10 mg Conjunto para preparações radiofarmacêuticas
- Spain
Medronato DRAXIMAGE 10 mg Kit para preparación radiofarmacéutica
- Netherlands
Medronate DRAXIMAGE 10 mg kit for radiopharmaceutical preparation

This leaflet was last approved in 21/02/2008

6. PHARMACEUTICAL PARTICULARS

6.1 List of excipients

p-Aminobenzoic acid
Stannous Chloride Dihydrate
Hydrochloric acid 1N (for pH adjustment)
Sodium hydroxide (for pH adjustment)

6.2 Incompatibilities

The technetium-^{99m} labelling reaction involved in preparing ^{99m}Tc-methylene diphosphonate complex depends on the maintenance of some tin in the divalent state. The presence of oxidating compounds in the pertechnate (^{99m}Tc) solution may adversely affect labeling.

This medicinal product must not be mixed with other medicinal products except those mentioned in section 12.

6.3 Shelf life

2 years
After reconstitution: 12 hours

6.4 Special precautions for storage

Lyophilized product: Do not refrigerate or freeze.

Reconstituted product: Do not store above 25°C. Do not refrigerate or freeze.

Storage should be in accordance with national regulations for radioactive material.

The medicinal product should not come into contact with air.

6.5 Nature and contents of the container

One vial contains 13.33 mg of powder.

10 mL Type 1 multidose glass vial closed with a butyl rubber stopper Type I. Medronate DRAXIMAGE 10 mg is supplied as 5, 10, 30 or 100 vials in a carton.

Not all pack size may be marketed.

6.6 Special precautions for disposal and other handlings

Any unused product or waste material should be disposed of in accordance with local requirements.

The administration of radiopharmaceuticals creates risks for other persons from external radiation or contamination from spill of urine, vomiting etc. Radiation protection precautions in accordance with national regulations must therefore be taken.

7. MARKETING AUTHORISATION HOLDER

DRAXIMAGE (UK) Limited
5 Old Bailey, 2nd floor, London, EC4M 7BA
England, United Kingdom
Tel: 44 (0) 20 7489 5700
Fax: 44 (0) 20 7489 5777

8. MARKETING AUTHORISATION NUMBER

United Kingdom: PL 29620/0002
Ireland: PA 1419/2/1
Denmark: DK R. 2238

9. DATE OF FIRST AUTHORISATION/RENEWAL OF AUTHORISATION

United Kingdom: 21/02/2008
Ireland: 28th March 2008
Denmark: 14 April 2008

10. DATE OF (PARTIAL) REVISION OF THE TEXT

United Kingdom: 21/02/2008

11. DOSIMETRY

The effective dose (E) of technetium (^{99m}Tc) medronate injection is 0.00619 mSv/MBq for females and 0.00475 mSv/MBq for males. The usual adult activity of 8 MBq/kg in a 70-kg female will result in an effective dose of 3.5 mSv; in an 80-kg male, it will result in an effective dose of 3.0 mSv.

Adult Effective Dose				
	Dose (MBq/kg)	E (mSv/MBq)	Weight	E (mSv)
Women	8	0.00619	70	3.47
Men	8	0.00475	80	3.04

Effective Dose (mSv/MBq) for children				
0	1 y	5 y	10 y	15 y
0.0631	0.0263	0.0142	0.00904	0.0059

The effective dose per MBq will be higher in patients with reduced renal function and in patients with high bone uptake.

The target organ is the bone surface (0.063 mGy/MBq). For an administered activity of 600 MBq, the radiation dose to the bone surface is 37.8 mGy.

The critical organ is the bladder wall (0.048 mGy/MBq). For an administered activity of 600 MBq, the radiation dose to the bladder wall is 28.8 mGy.

The table below shows the dosimetry as calculated according to Publication 80 of the ICRP (International 1999)

Absorbed radiation doses: ^{99m} Tc-phosphate and phosphonate (mGy/MBq)						
Organ	Absorbed dose per unit activity administered (mGy/MBq)					
	Adult	15 years	10 years	5 years	1 year	
Adrenals	0.0021	0.0027	0.0039	0.0058	0.011	
Bladder wall	0.048	0.060	0.088	0.073	0.13	
Bone surfaces	0.063	0.082	0.13	0.22	0.53	
Brain	0.0017	0.0021	0.0028	0.0043	0.0061	
Breast	0.00071	0.00089	0.0014	0.022	0.0042	
Gall Bladder	0.0014	0.0019	0.0035	0.0042	0.0067	
GI tract						
Stomach wall	0.0012	0.0018	0.0025	0.0035	0.0066	
Small intestine	0.0023	0.0029	0.0044	0.0053	0.0095	
Colon	0.0027	0.0034	0.0053	0.0061	0.011	
Upper large intestine	0.0019	0.0024	0.0039	0.0051	0.0089	
Lower large intestine	0.0038	0.0047	0.0072	0.0075	0.013	
Heart	0.0012	0.0016	0.0023	0.0034	0.0060	
Kidneys	0.0073	0.0088	0.012	0.018	0.032	
Liver	0.0012	0.0016	0.0025	0.0036	0.0066	
Lungs	0.0013	0.0016	0.0024	0.0036	0.0068	
Muscles	0.0019	0.0023	0.0034	0.0044	0.0079	
Oesophagus	0.0010	0.0013	0.0019	0.0030	0.0053	
Ovaries	0.0036	0.0046	0.0066	0.0070	0.012	
Pancreas	0.0016	0.0020	0.0031	0.0045	0.0082	
Red Marrow	0.0092	0.01	0.017	0.033	0.067	
Skin	0.0010	0.0013	0.0020	0.0029	0.0055	
Spleen	0.0014	0.0018	0.0028	0.0045	0.0079	
Testes	0.0024	0.0033	0.0055	0.0058	0.011	
Thymus	0.0010	0.0013	0.0019	0.0030	0.0053	
Thyroid	0.0013	0.0016	0.0023	0.0035	0.0056	
Uterus	0.0063	0.0076	0.012	0.011	0.018	
Remaining organ	0.0019	0.0023	0.0034	0.0045	0.0079	
Effective dose (mSv/MBq)	0.0057	0.0070	0.0110	0.0140	0.0270	

For Medronate DRAXIMAGE, the effective dose from the administration of 500 MBq technetium (^{99m}Tc) medronate is 2.85 mSv (for an individual weighing 70 kg).

The radiation dose to the target organ, bone surface, is 31.5 mGy/500 MBq.

For this activity of 500 MBq, the radiation doses delivered to the target organ (bone surfaces) is 31.5 mGy/500 MBq and the typical radiation dose to the critical organ, the bladder wall is 24.0 mGy/500 MBq

12. INSTRUCTION FOR PREPARATION OF RADIOPHARMACEUTICALS

Instructions for use

NOTE: Use aseptic procedures throughout and take precautions to minimize radiation exposure by use of suitable shielding. Use waterproof gloves during the following preparation procedure.

Before reconstituting a vial, it should be inspected for cracks and/or a melted plug or any other indication that the integrity of the pressure differential (inside/outside the vial) has been lost.

The medicinal product should not come into contact with air.

To prepare Technetium technetium (^{99m}Tc) medronate injection:

a) Remove the protective disc from a reaction vial and swab the closure with either an alcohol swab or a suitable bacteriostatic agent.

b) Place the reaction vial in a suitable lead vial shield (minimum wall thickness ¼ inch) which has a fitted lead cap. Obtain 2 to 10 mL of sterile, non-pyrogenic sodium pertechnetate ^{99m}Tc injection Ph. Eur. using a shielded syringe.

c) Using a shielded syringe, aseptically introduce 740 to 18500 MBq (20 to 500 mCi) of sodium pertechnetate (^{99m}Tc) to a reaction vial. Sodium pertechnetate ^{99m}Tc solutions containing an oxidizing agent are not suitable for use.

d) Place the lead cap on the reaction vial shield and swirl the shielded reaction vial until the contents are completely dissolved. The solution must be clear and free of particulate matter before proceeding.

e) Assay the product in a suitable calibrator, record the radioassay information on the label with radiation warning symbol, and apply it to the reaction vial.

f) The radiochemical purity of the finished preparation should be determined prior to patient administration. The radiochemical purity should not be less than 95%.

g) Withdrawals for administration must be made aseptically using a shielded sterile syringe and needle. Since the reaction vials contain nitrogen, they should not be vented. If repeated withdrawals are made, the replacement of the contents of the vial with air should be minimized.

h) Do not keep the labelled product above 25°C, in the refrigerator or the freezer. Use the labelled product within 12 hours. It should also be stored during its life in a suitable lead shield.

The pH of the solution is 6.5 to 7.5.

Method for control of radiochemical purity

The following procedure describes a series of simple steps for running chromatograms. Steps h and i describe two methods, one for determining free pertechnetate in a mixture of chelated and reduced technetium and the other for determining reduced technetium in a mixture of chelated technetium and pertechnetate. The TLC procedure requires the following :

Solid phase: ITLC-SG

Solvent A: 136 mg/mL sodium acetate for determination of reduced technetium

Solvent B: Methyleneylketon for determination of pertechnetate

a) Add 1 mL of the required solvent to an 18 mm x 150 mm test tube. Stopper the test tube and allow the atmosphere to equilibrate for 1 minute.

b) Place a drop (approximately 0.02 mL) of the radioactive solution on a 1 cm x 10 cm chromatographic strip at a pencil mark 1 cm from one end of the strip, which is the origin. A simple way to do this is to use a standard 1 mL tuberculin syringe with a 25 gauge needle and dispense one small drop. Discard the needle and syringe after use. Instead of a tuberculin syringe, a 20 microlitres disposable micropipette (e.g. Fisher Scientific 21-164-2D) can also be used to dispense 0.02 mL.

c) Immediately dry the spot using a gentle stream of nitrogen gas. Do not use compressed air since this tends to cause pertechnetate formation.

d) Develop the chromatogram by placing it, with the origin down into the solvent, in the previously equilibrated test tube. Stopper the test tube. The test tube should be kept upright, ideally in a test tube rack. Development requires about 10 minutes for ITLC-SG strips.

e) When the solvent front has climbed to the top of the strip, remove it with a forceps and allow it to dry. The strips can be dried by placing them radioactive side up on a disposable non-porous pad at room temperature.

f) In the sodium acetate (136 mg/mL) system, reduced TcO₂ stays at the origin or Rf = 0, while the bound and free technetium TcO₄⁻ move to the front (Rf = 0.85-1.0).