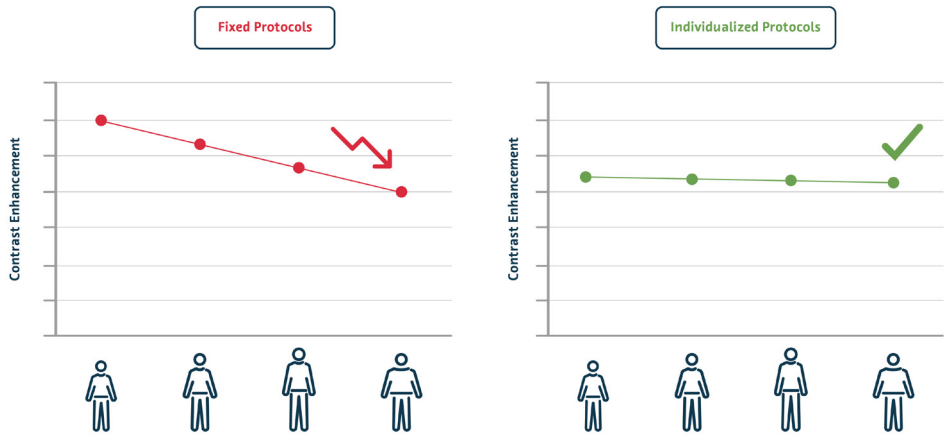
Smart Protocols. Because Every Body Is Different.

Bringing Injection Protocol Personalization to Clinical Routine

Every day, a diverse patient population presents unique imaging challenges. It is well accepted that contrast enhancement decreases with increasing patient size and that individualized protocols can lead to more consistent images.[1,2,3,4]



However, individualizing protocols for every patient's exam has been considered impractical. Numerous factors related to the patient and to the procedure lead to complex manual calculations or look-up tables, which can take up valuable time and potentially lead to mistakes. And as scanner technology has advanced, the ability to use lower tube voltages to reduce radiation dose to patients has made protocoling even more complicated. To maintain similar levels of contrast enhancement across different tube voltages, the iodine delivery rate and iodine load should be adjusted, as well.[5,6] All of this can be overwhelming to a radiology department already stretched thin.

Patient-centric Workflow for Individualized Care

Bayer's MEDRAD® Centargo CT injection system is now available with Workflow Solutions //Smart Protocols software, streamlining the personalization process into a few clear steps.

//Smart Protocols

Gives You Control

- Implement your site's preferred dosing options and limits, based on your own injection protocols, for as many indications as you need
- Review what has been adjusted and what limits are in effect as the protocol is automatically recalculated

Enables Routine Personalization

- Automatically calculate flow rates and volumes based on patient size (weight or lean body weight) and contrast media concentration
- Apply tube voltage adjustment to account for scanner settings

Provides Added Confidence

- Display site-specific eGFR guidance before the protocol is even selected
- Verify that calculated flow rates and pressure limit settings comply with your policies for IV access

1. Apply exam-time check of eGFR according to site guidance

2. Calculate injection protocol based on patient, contrast media concentration and tube voltage

3. Verify that the protocol settings comply with IV access policies

Injector and Contrast Media Considerations for Personalized Protocols

With a modern, streamlined user interface, modality worklist integration[7] and built-in barcode reader, Centargo easily incorporates //Smart Protocols into the workflow. Combined with Ultravist®'s 2D barcode for automatic data entry, getting the information required to personalize protocols could not be simpler.

ULTRAVIST® 150/240/300/370 Composition: Ultravist ®150, 240, 300, 370: 1 ml contains 0.312 g, 0.499 g, 0.623 g, 0.769 g iopromide in aqueous solution. For diagnostic use! Indications: Ultravist® 240/300/370: For intravascular use and use in body cavities. Contrast enhancement in computerised tomography (CT), arteriography and venography, intravenous/intraarterial digital subtraction angiography (DSA); intravenous urography, use for ERCP, arthrography and examination of other body cavities. Ultravist® 150: For intraarterial digital subtraction angiography (DSA), checking the patency of a dialysis shunt. Ultravist® 240: Also for intrathecal use. Ultravist® 370: Especially for angiocardiography. Ultravist® 150/300/370: Not for intrathecal use. Contraindications:There are no absolute contraindications to the use of Ultravist®. Special warnings and special precautions: Caution is advised in patients with: Hypersensitivity or a previous reaction, bronchial asthma, beta blockers, latent hyperthyroidism or goiter, severe cardiac or cardiovascular diseases; very poor general state of health, pulmonary edema, severe renal insufficiency, severe liver dysfunction in case of severe renal insufficiency, metformin therapy, symptomatic cerebrovascular diseases, cerebral convulsive disease, myeloma or paraproteinaemia, pheochromocytoma, autoimmune disorders, myastenia gravis, alcoholism, homocystinuria, pregnancy and neonates, especially preterm infants. Undesirable effects (please refer to the contraindications and warnings and precautions sections): Most frequently observed adverse drug reactions (4%) are: Headache, nausea and vasodilatation; most serious adverse drug reactions are anaphylactoid shock, respiratory arrest, bronchospasm, laryngeal edema, pharyngeal edema, asthma, coma, cerebral infarction, stroke, brain edema, convulsion, arrhythmia, cardiac arrest, myocardial ischemia, myocardial infarction, cardiac failure, bradycardia, cyanosis, hypotension, shock, dyspnea, pulmonary edema, respiratory insufficiency and aspiration. Common:Dizziness, headache, dysgeusia, blurred/disturbed vision, chest pain/discomfort, hypertension, vasodilatation, vomiting, nausea, pain, injection site reactions (various kinds, e.g. pain, warmth, edema, inflammation and soft tissue injury in case of extravasation), feeling hot. Uncommon:Hypersensitivity/anaphylactoid reactions (anaphylactoid shock, respiratory arrest, bronchospasm, laryngeal/pharyngeal/face edema, tongue edema, laryngeal/pharyngeal spasm, asthma, conjunctivitis, lacrimation, sneezing, cough, mucosal edema, rhinitis, hoarseness, throat irritation, urticaria, pruritus, angioedema), vasovagal reactions, confusional state, restlessness, paraesthesia/hypoaesthesia, somnolence, arrhythmia, hypotension, dyspnea, abdominal pain, edema. Rare:Anxiety, cardiac arrest, myocardial ischemia, palpitations. Frequency not known:Thyrotoxic crisis, thyroid disorder, coma, cerebral ischaemia/infarction, stroke, brain edema, convulsion, transient cortical blindness, loss of consciousness, agitation, amnesia, tremor, speech disorders, paresis/paralysis, hearing disorders, myocardial infarction, cardiac failure, bradycardia, tachycardia, cyanosis, shock, thromboembolic events, vasospasm, pulmonary edema, respiratory insufficiency, aspiration, dysphagia, salivary gland enlargement, diarrhoea, bullous conditions (e.g. Stevens-Johnson's or Lyell syndrome), rash, erythema, hyperhydrosis, compartment syndrome in case of extravasation, renal impairment, acute renal failure, malaise, chills, pallor, body temperature fluctuation. Intrathecal use:Based on experience with other non-ionic contrast media, the following undesirable effects may occur with intrathecal use in addition to the undesirable effects listed above: Nervous, psychiatric:Neuralgia, meningism (common), paraplegia psychosis, aseptic meningitis, EEG-changes (rare). General disorders and administration site conditions:Micturition difficulties (uncommon), back pain, pain in extremities, injection site pain (rare). Headache, including severe prolonged cases, nausea and vomiting occur commonly. The majority of the reactions after myelography or use in body cavities occur some hours after the administration. ERCP:In addition to the undesirable effects listed above, the following undesirable effects may occur with use for ERCP: Elevation of pancreatic enzyme levels (common), pancreatitis (rare). Use in other body cavities:The possibility of pregnancy must be excluded before performing hysterosalpingography. Inflammation of the bile ducts or salpinx may increase the risk of reactions following ERCP or hysterosalpingography procedures. Low osmolar water-soluble contrast media should be routinely used in gastrointestinal studies in newborns, infants and children because these patients are at particular risk for aspiration, intestinal occlusion or extraluminal leakage into the peritoneal cavity. Instructions for use/handling: Ultravist® should be warmed to body temperature prior to use. Contrast media should be visually inspected prior to use and must not be used, if discoloured, nor in the presence of particulate matter (including crystals) or defective containers. Date of revision of the text: March 2014. Please note! For current prescribing information refer to the package insert and/or contact your local Bayer HealthCare organisation. Bayer Pharma AG, 13342 Berlin, Germany.Adverse reactions can be reported to GPV.CaseProcessing@bayer.com

Literature:

1. Mihl C et al. Evaluation of individually body weight adapted contrast media injection in coronary CT-angiography. Eur J Radiol. 2016;85(4):830-6. doi: https://doi.org/10.1016/j.ejrad.2015.12.031
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7. In conjunction with available Automated Documentation

Clear Direction. From Diagnosis to Care.

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