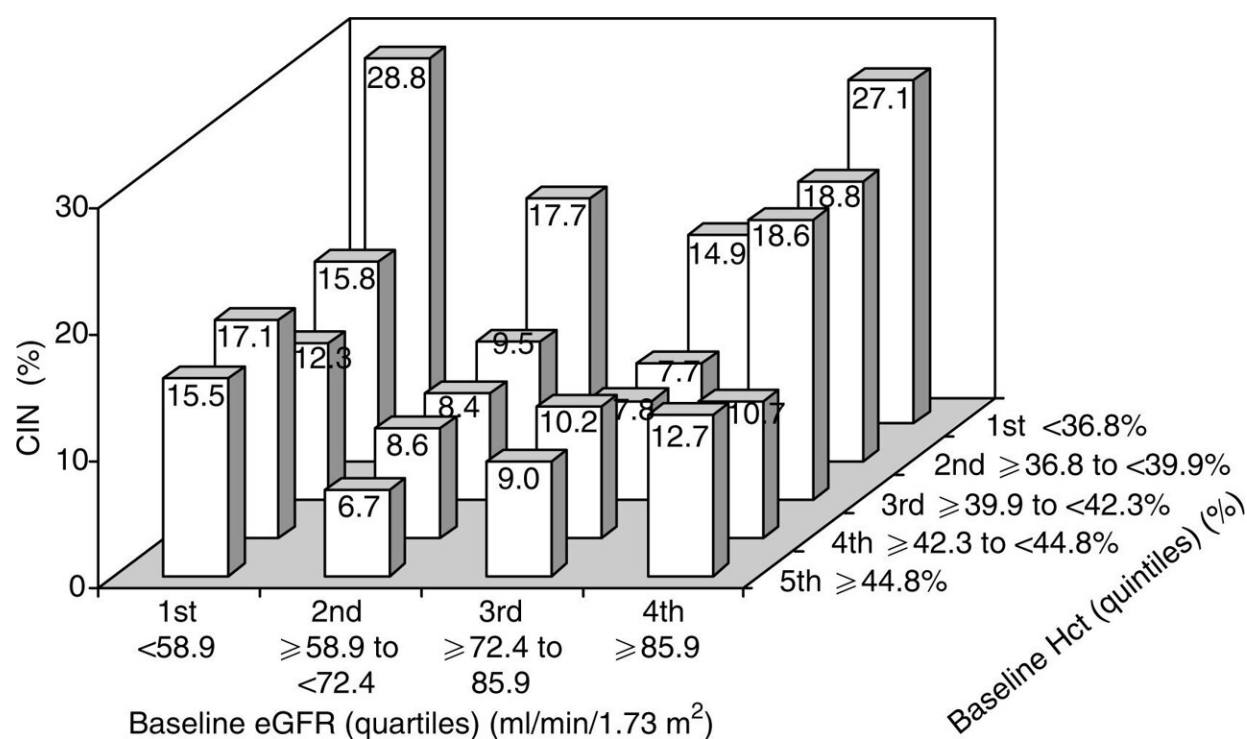


Novel virtual coronary roadmap tool reduces volume of iodinated contrast needed during percutaneous coronary work

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Risk of CIN in relation to baseline hematocrit and eGFR. Credit: *Kidney International* (2006). DOI: 10.1038/sj.ki.5000368

Results from Dynamic Coronary Roadmap for Contrast Reduction (DCR4Contrast), a multi-center prospective, unblinded, randomized controlled trial were presented today as late-breaking clinical research at

the Society for Cardiovascular Angiography & Interventions ([SCAI](#)) 2023 Scientific Sessions. The trial found that Dynamic Coronary Roadmap (DCR), a percutaneous coronary intervention (PCI) navigation support tool developed by health technology company Philips, effectively reduces iodinated contrast during PCI.

Iodinated contrast is used to enhance the ability to see [blood vessels](#) and organs during medical imaging and during procedures like PCI. Contrast induced nephropathy (CIN) is a serious complication during PCI which leads to a sharp decrease in [kidney function](#) over 48-72 hours and has similar symptoms as kidney disease.

The incidence of CIN for patients undergoing PCI [ranges from 3% to 20%](#), depending on patient co-morbidities.

In a multi-center, prospective, unblinded, stratified 1:1 randomized controlled trial, DCR4Contrast enrolled 371 patients from six centers in the U.S, Belgium, Israel and Spain. Patients undergoing PCI were randomized to either DCR- or conventional angiographic guidance. Investigators scored the [overall quality](#) (representation of the coronary artery tree is complete) and accuracy (location of the roadmap is in the correct location during majority of the procedure) of the roadmap during PCI.

The roadmap was used in 98% of the cases in the DCR arm. The quality of the roadmap was rated very good or good in 79% of cases which resulted in a related reduction in contrast volume. Compared to the control arm, there was a 28.8% reduction in contrast used during PCI using DCR.

"We are encouraged by the contrast-sparing effect our study demonstrated and points to DCR as a potential solution to reduce the risk of CIN during a PCI, which has the potential to increase [patient safety](#),"

said John C. Messenger, MD, FSCAI, Professor of Medicine, Director, Interventional Cardiology at the University of Colorado School of Medicine University of Colorado Hospital Aurora, CO and lead author of the study. "Looking ahead, DCR could also have potential applications in Ultra Low Contrast PCI for complex procedures. We are excited to see the further capabilities and use of this software."

Provided by Society for Cardiovascular Angiography and Interventions

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