

DYEVERT™
Contrast Reduction System **PLUS EZ**

Preventing AKI In Your Cath Lab Patients



“The reduction of CM volume by the DyeVert™ System was associated with a significant reduction in AKI rate.”

— Briguori, et al. C&CI 2020

*Contrast Media

Contrast Induced Acute Kidney Injury (AKI) is a rising problem in cath lab patients with Chronic Kidney Disease (CKD). AKI is associated with increased length of stay, increased 30-day readmissions, and poor clinical and economic outcomes for patients and hospitals.¹

The DyeVert PLUS EZ Contrast Reduction System is a simple, easy-to-use solution.

- Effective in preventing AKI in patients with CKD, high-risk patients and complex cases²⁻⁹
- Consistently reduces contrast delivered to patients on average 40%^{10,11}
- Integrates seamlessly into coronary and peripheral angiography procedures

Proven Reduction of AKI

In real-world and clinical environments, the DyeVert PLUS EZ System has been shown to improve clinical outcomes by reducing AKI rates in high-risk patients.²⁻⁹

Real-world results: 55% mean relative AKI reduction

Cath lab quality improvement (QI) programs to reduce AKI demonstrated a 55% mean relative AKI reduction with the DyeVert System.²⁻⁵

Kidney care pathways for at-risk patients included screening, hydration per physician order, and use of the DyeVert System to reduce contrast delivered to patients and manage max contrast threshold levels.

Comparative results: 51% mean relative AKI reduction

Studies comparing AKI rates in patients treated with and without the DyeVert System demonstrated a 51% mean relative AKI reduction in patients treated with DyeVert.⁶⁻⁹

Briguori, et al. demonstrated a 58% relative AKI reduction in the DyeVert cohort, with hydration levels being similar in both groups.⁹

Lower Economic Risk

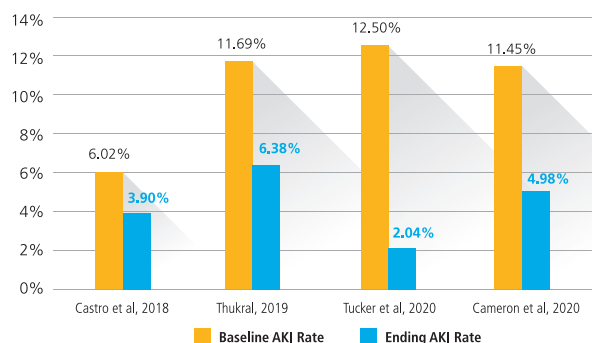
Preventing AKI due to cath lab procedures has been shown to provide strong economic, as well as clinical outcomes.

AKI dramatically increases costs for hospitals—upwards of \$15,000 per AKI event—due to increased length of stay, as well as increased rates of 30-day readmissions.

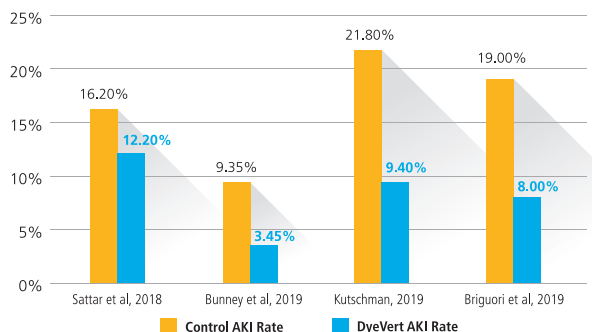
By preventing AKI with the DyeVert System in high-risk patients, hospitals have realized cost savings of up to \$2,000 per patient.*

*Data on file.

QI Programs AKI Reduction

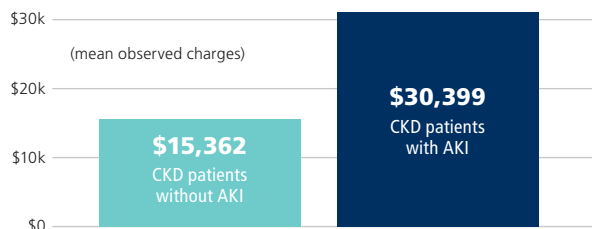


Control vs. DyeVert System AKI Reduction



AKI increases hospital costs

Average hospital cost increase of \$15,000 per CKD patient with AKI due to increased length of stay.

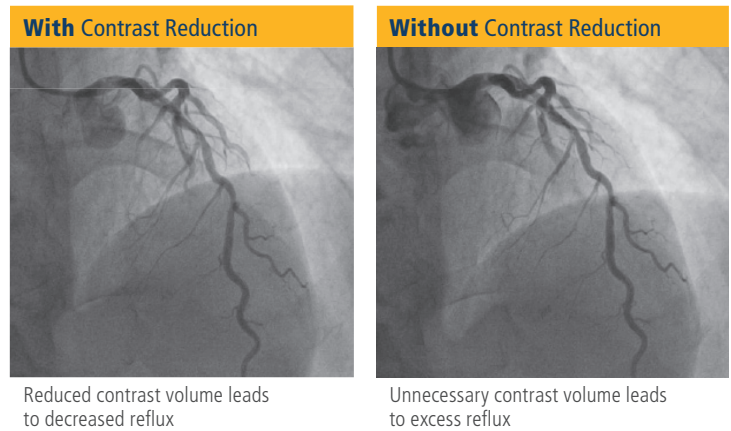


AKI Burden of Illness Study - Premier Healthcare Database
A study of 749 hospitals with 2.8M coronary angiography patients¹

Uncompromised Imaging

Injections into coronary arteries may result in excess reflux into the aorta that is not needed for image quality.

The DyeVert System reduces contrast delivered to patients without compromising image quality, as seen by minimization of excess reflux.



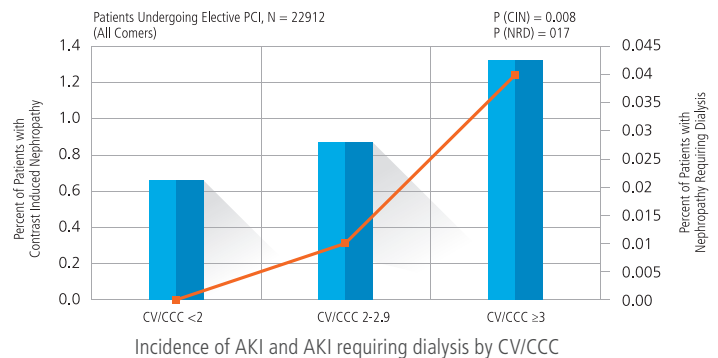
Customize Contrast Delivery and Threshold Management

The prevention of AKI is impacted by establishing contrast dose levels based on each patient's kidney function.

Studies have shown AKI prevention when contrast volume thresholds remain below $3x$ eGFR.¹²

*Contrast volume/calculated creatinine clearance

Contrast Threshold levels below $3x$ CV/CCC* reduces AKI

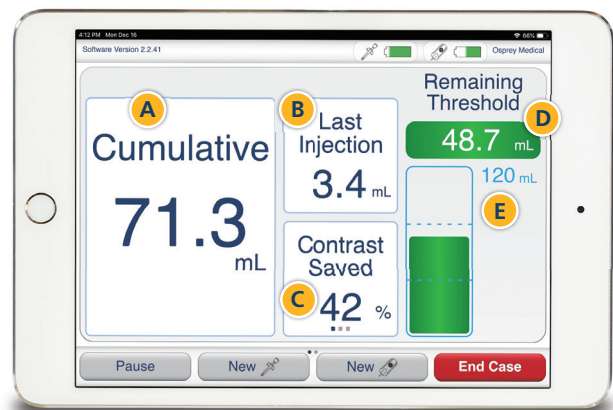


Real-Time Monitoring with Shot-by-Shot Threshold Management

The DyeVert System's Bluetooth Technology enables accurate digital recording of all contrast delivered to a patient during procedure.

- A** Cumulative contrast volume delivered
- B** Contrast volume per injection
- C** Percent contrast saved per injection*
- D** Contrast level remaining until threshold max achieved
- E** Physician-specified threshold volume max

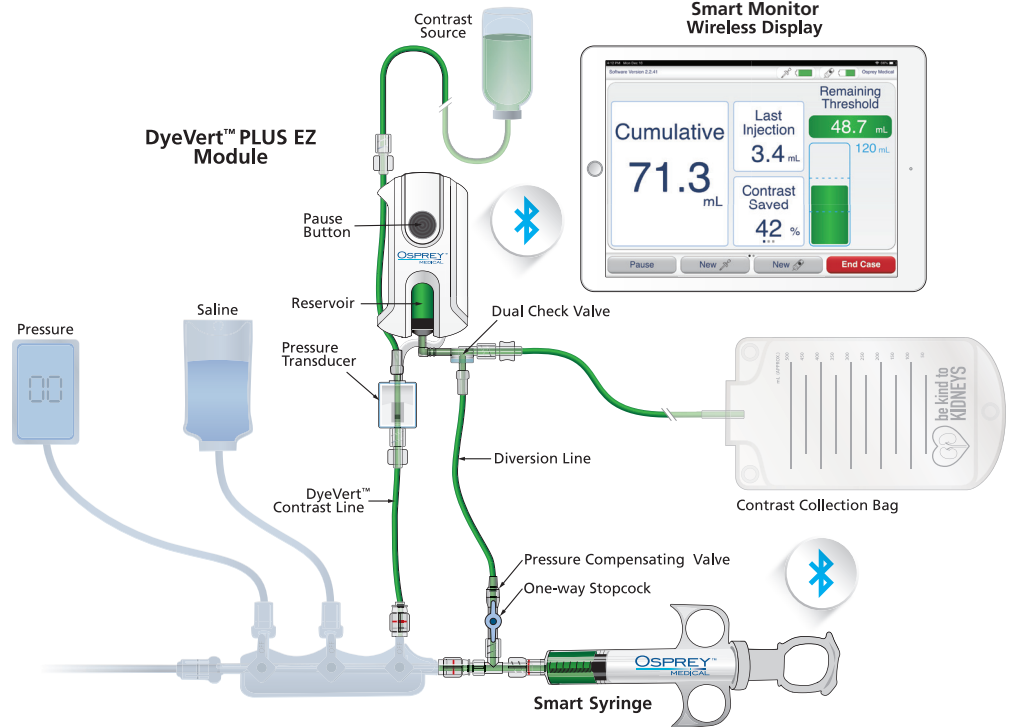
*Triple toggle for Average % saved per case and % of contrast in syringe



“ Thus far, the only strategies clearly shown to reduce the risk of contrast-induced AKI are hydration and minimizing the amount of contrast media.¹³ ”

– Levine, et al. ACC/AHA/SCAI guidelines JACC 2011

- Simple, one-step prep
- Interfaces with standard manifold systems
- Easy-to-use and incorporate into workflow
- Diverts contrast on each injection, including puffs
- Proprietary Pressure Compensating Valve system automatically self adjusts for different catheter configurations, contrast types and injection rates



Disposable, STERILE (Single-Use) components				
Model No.	Description	Used With	UOM	Qty
HV-EZ-RRS-10	DyeVert™ PLUS EZ Disposable Kit Contents: Module with Smart Syringe (Ring Plunger-Ring grip, Swivel Luer)	High-Viscosity agents: • Visipaque™ 320 (Iodixanol 320 mgI/mL) • Omnipaque™ 350 (Iohexol 350 mgI/mL) • Isovue™ 370 (Iopamidol 370 mgI/mL)	BOX	10
LV-EZ-RRS-10	DyeVert™ PLUS EZ Disposable Kit Contents: Module with Smart Syringe (Ring Plunger-Ring grip, Swivel Luer)	Low-Viscosity agents: • Visipaque™ 270 (Iodixanol 270 mgI/mL) • Omnipaque™ 300 (Iohexol 300 mgI/mL)	BOX	10

Re-usable, provided NON-STERILE	
Model No	Description
SMART-US	Wireless Display

References

1. Prasad A, et al. Contemporary trend of acute kidney injury incidence and incremental costs among US patients undergoing percutaneous coronary procedures. *Catheter Cardiovasc Interv.* 2020 Nov;96(6):1184-1197.
2. Castro D, Dang TT. Reducing contrast-induced acute kidney injury in the cath lab. Poster presentation at ACC National Cardiovascular Data Registry (NCDR) 2018 Annual Conference.
3. Thukral N. Kidney care protocols in the cath lab. Transcatheter Cardiovascular Therapeutics 2019 Presentation. Accessed on October 14, 2019 from: <https://www.tctmd.com/slide/aki-reduction-cath-lab-protocol-development-implementation-and-outcomes>.
4. Turner C, Tucker PA. Real-world impact of a quality improvement program for AKI prevention in the cardiac cath lab. SCAI Scientific Sessions Virtual Conference. *Catheter & Cardiovasc Interv.* 2020;95(Supplement 2):S112-S113.
5. Cameron A, Espinosa TJ. Reducing contrast-induced acute kidney injury in a cardiac catheterization laboratory: a quality improvement initiative. SCAI Scientific Sessions Virtual Conference. *Catheter & Cardiovasc Interv.* 2020;95(Supplement 2):S25.
6. Bunney R, Saenger E, Shah C, et al. Contemporary use of contrast dye reduction technology in a tertiary academic hospital: patient characteristics and acute kidney injury outcomes following percutaneous coronary interventions. Poster presented at ACC Quality Summit 2019; Poster 2018-063.
7. Kutschman R. Clinical and economic outcomes of a comprehensive clinical quality initiative for reducing acute kidney injury in chronic kidney disease patients undergoing coronary angiography. *JACC.* 2019;74(13 Suppl):B605.
8. Sattar A, et al. Impact of using DyeVert Plus on incidence of acute kidney injury after cardiac catheterizations with coronary interventions in high risk patients. ACC Annual Meeting 2018; Charleston, WV.
9. Briguori C, Golino M, Porchetta N, et al. Impact of a contrast media volume control device on acute kidney injury rate in patients with acute coronary syndrome. *Catheter & Cardiovasc Interv.* 2020 Jul 18. doi: 10.1002/ccd.29136.
10. Desch S, et al. Impact of a novel contrast reduction system on contrast savings in coronary angiography – The DyeVert randomized controlled trial. *Int J of Cardiol.* 2018;(257):50-53.
11. Gurm H, et al. Minimizing radiographic contrast administration during coronary angiography using a novel contrast reduction system: A multicenter observational study of the DyeVert Plus contrast reduction system. *Catheter & Cardiovasc Interv* 2019;93(7):1228-35.
12. Gurm H, et al. Renal function-based contrast dosing to define safe limits of radiographic contrast media in patients undergoing PCI. *JACC* 2011;58:907-14.
13. Levine GN, et al. ACCF/AHA/SCAI – Guideline for Percutaneous Coronary Intervention. A Report of the ACC Foundation/AHA Task Force on Practice Guidelines and SCAI. *Circulation.* 2011; 124:e574-e651.

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