MEDRAD® MRXperion
MR Injection System

Efficient.
Smart.
My MR Injector.

- Saves time
- Increases confidence
- Enhances patient care

BAYER

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Power injection versus manual injection.

What a contrast!

Clear Direction. From Diagnosis to Care.

MEDRAD® MRXperion
MR Injection

Scientific Evidence of the Benefits of Power Injection

To achieve successful contrast-enhanced MR procedures, accurate and repeatable contrast agent (e.g. gadobutrol) administration is necessary. In order to compare outcomes from power injection with MEDRAD MRXperion MR Injection System (MRXperion) versus manual injection, Bayer performed two studies. The first one was a laboratory study to assess flow rates over time and their deviations.[1] The second study was conducted using animal testing (minipigs) to see the impact of contrast administration in time-resolved MR angiography[2] (4D-MRA).

Lab Study

Injector Administration

- Performed with the MRXperion, operated by an experienced Bayer technician.

Manual Administration

- Performed by ten technologists with at least five years of experience in clinical practice.

Results

- Identical flow rates over time with MRXperion
- High variability in flow rates over the whole course of the manual injection

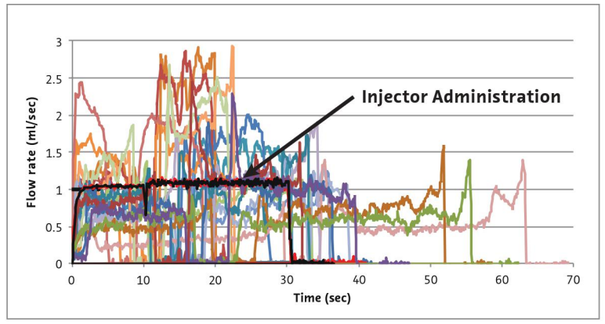

Fig. 1 Injection profiles of 2 power injector administrations (arrow) in comparison to a series of manual administrations by multiple technologists. Aim was 1ml/sec flow rate. This example graph shows the consistency of achieving the desired flow rate when using MRXperion.

[1] Endrikat J et al., Invest Radiol. 2018 Jan;53(1):1-5
[2] Budjan J et al., Eur Radiol. 2018 May;28(5):2246-2253

Animal Study

Injector Administration

- Performed with the MRXperion, operated by an experienced Bayer technician.

Manual Administration

- All manual injections were performed by the same experienced technologists, who had performed more than 1,000 hand injections.

Results

- Highly reproducible administration with MRXperion
- Clearly defined and standardized bolus shape with MRXperion
- Higher arterial phase signal enhancement in 4D-MRA with MRXperion

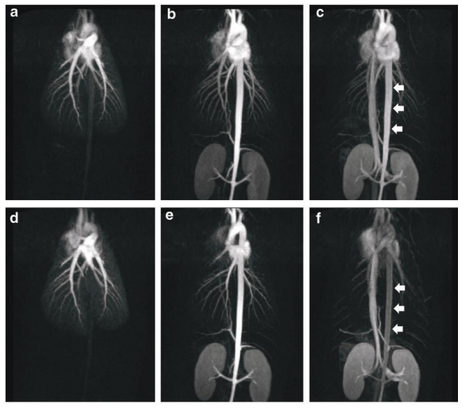

Fig. 2 Maximum intensity projections for different time points (a, d pulmonary artery; b, e arterial phase; c, f venous phase) of the subtracted 4D-MRA datasets for manual injection (top row a–c) and automated injection (bottom row d–f).

Accuracy and Repeatability

The results of the bench tests clearly demonstrate that MRXperion has been designed to achieve:

- Higher flow rate accuracy and repeatability
- Consistent contrast delivery
- Standardization of contrast administration protocols
- Potentially improved diagnosis and treatment planning

Following both studies, contrast agent injection utilizing the MRXperion MR injection system is more accurate, defined and repeatable versus manual injection. That means enhanced quality for operational consistency within your Radiology Department.