

Simulation Training for Radiologists: Management of Contrast Reactions

Jennifer Schopp MD, Kristen Bishop MD,
Jessica Porembka MD, Julie Champine MD



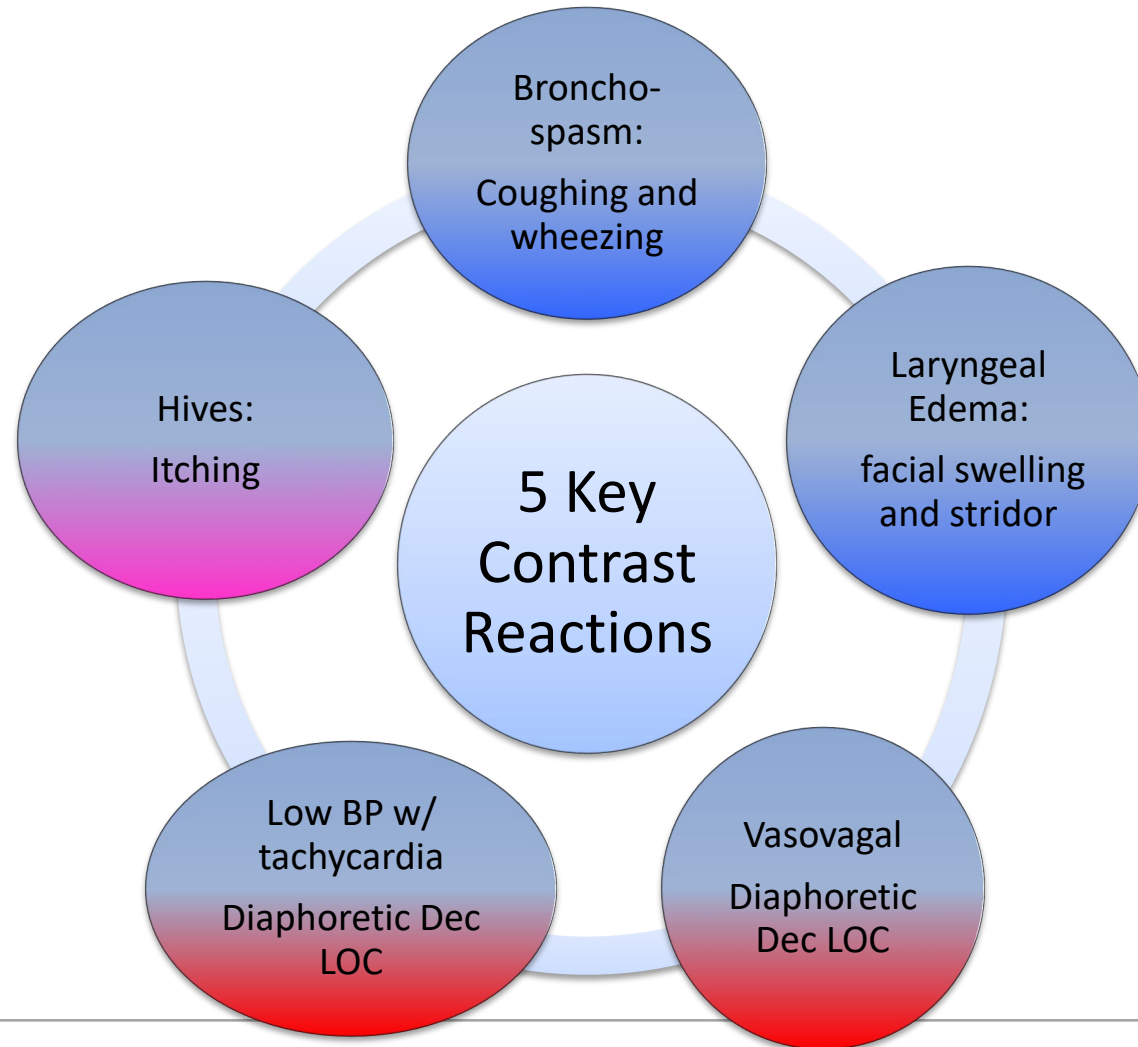
Background

- Allergic reactions to IV contrast occur 0.2-3% of the time, most of which are mild and self limited, although 2-3% are severe and life threatening.
- Given the infrequency, a radiologist may go years without managing a severe reaction.
- There are 5 key reactions to contrast, each of which can be life threatening.
- Knowledge of contrast reaction management can be life saving.
- Specialized training is needed to maintain skills in identification of reaction type and selection of proper medications to treat. Training in our institution has traditionally included biennial lectures for radiology faculty, with biennial review of the contrast kits.

AIM STATEMENT:

- Improve recognition and treatment of contrast reactions by creating a hands on simulation training program for radiology faculty, with training to repeat every 2 years
- Demonstrate improved reaction type identification and medication selection using pre and post testing.

5 key Reactions to Contrast



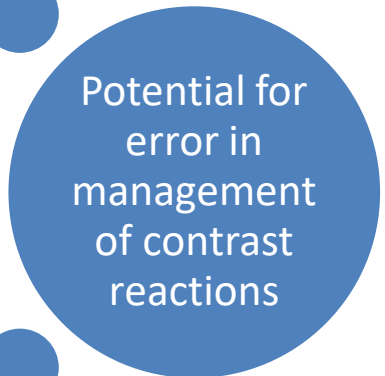
Infrequency of severe reactions to contrast

Unfamiliar with medication

Smaller Epi Dose compared to ACLS

Assuming RN will know proper med/dose

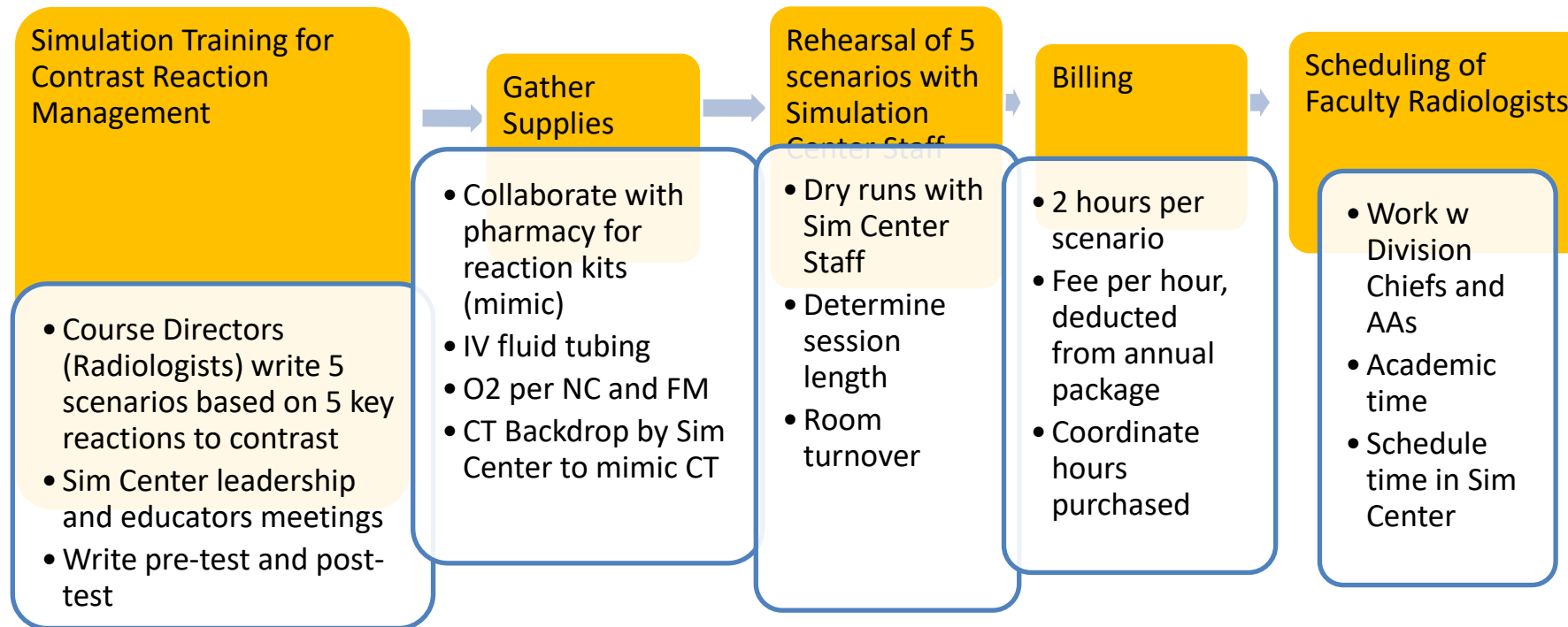
Lack of confidence in managing reactions



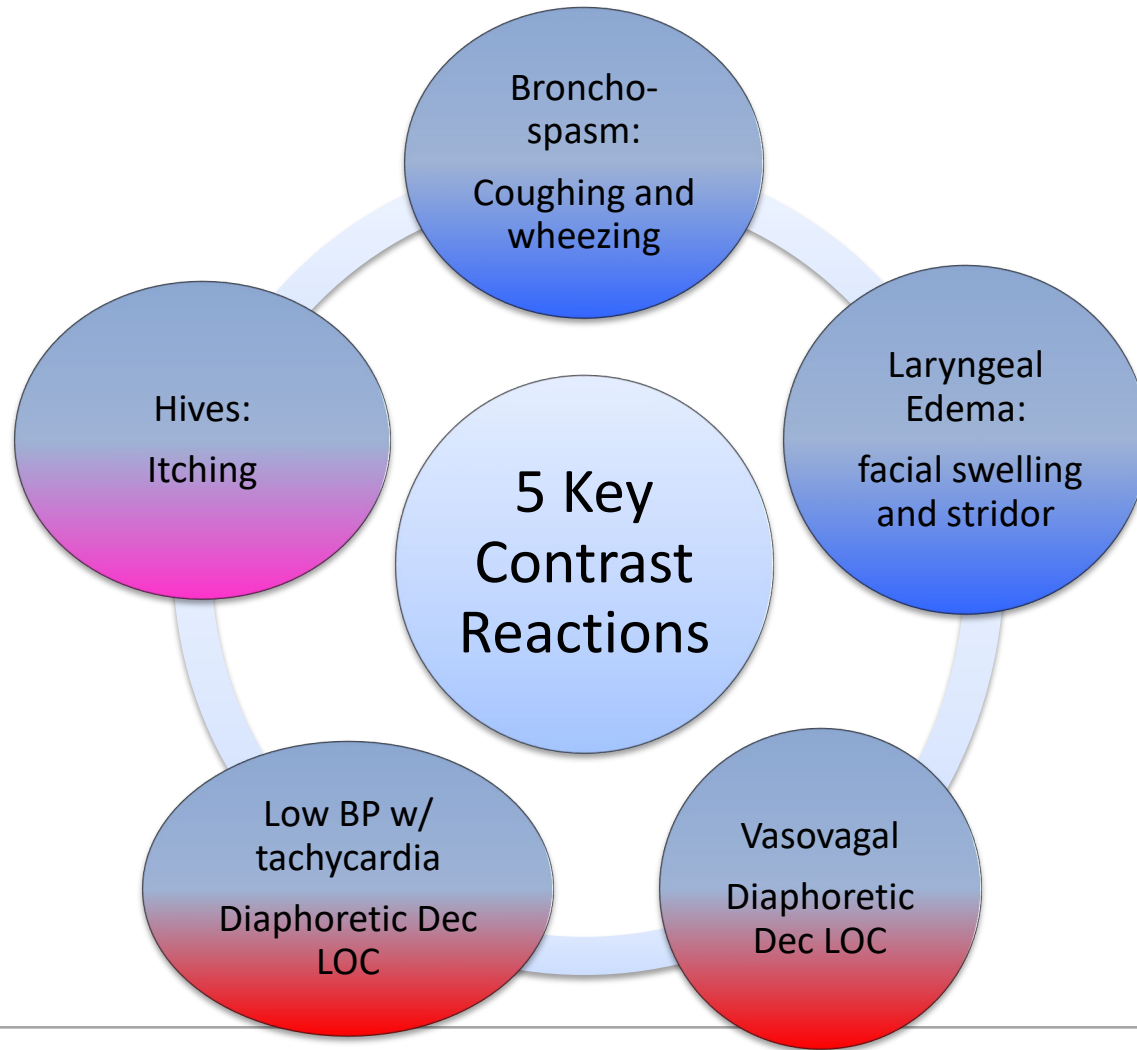
Therefore, improved training in recognition and treatment of contrast reactions is needed.

Intervention

- Multidisciplinary team of physicians, clinical operations leaders, pharmacist, and simulation center educators, simulation center leadership, and schedulers was assembled to develop and implement a Contrast Reaction Management Simulation Training Program for clinical faculty in the department of Radiology



5 key Reactions to Contrast



Simulation Training:

5 radiologists/2 hour session.

Each leads 1 of the 5 key reaction scenarios.

Additional members assist with oxygen selection, medications, patient positioning, and call for assistance

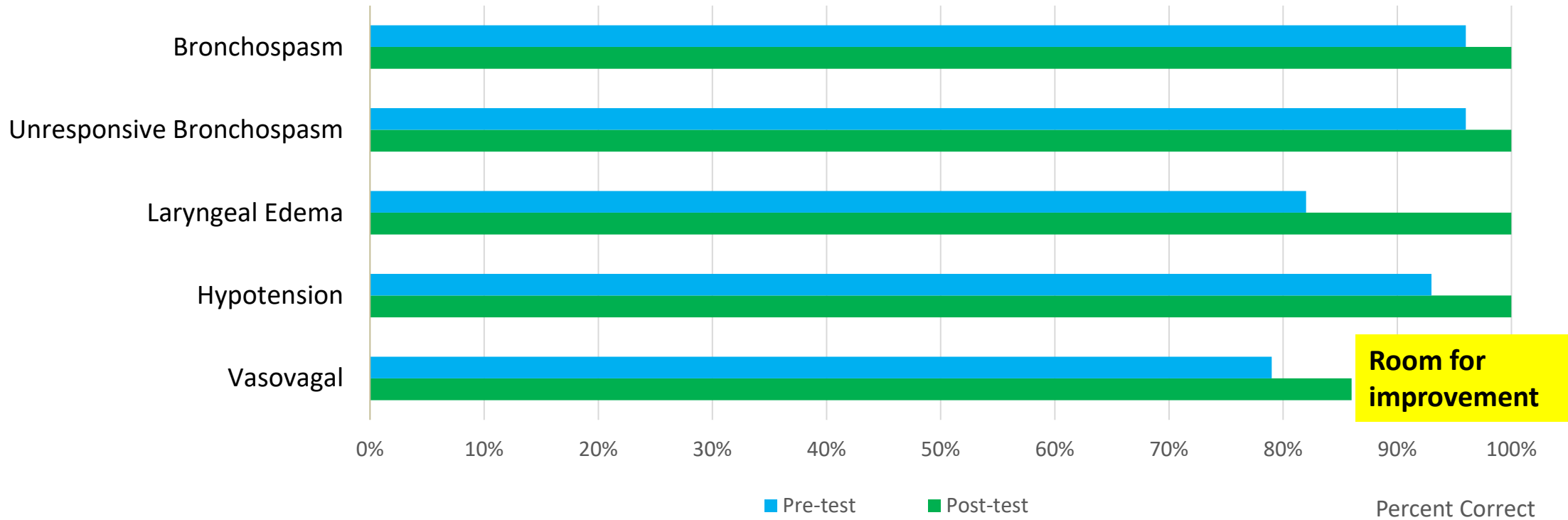
- 5 question pre-test
- Brief lecture
- Scenarios, with debriefing sessions between
- Post test

Results and Conclusions

- Training was established pre-pandemic, then on hold, then resumed with go live date of 11/06/24
- 28 faculty trained at Simulation Center within a 4 month period, on track for 100 faculty within 1 year (all within 2 years)
- Post testing improvement is demonstrated on each key concept, with nearly all at 100% (except vasovagal concept).

Pre and Post Test

Pre and Post Test Scoring



Future

- Multidisciplinary approach was effective in creating and implementing training
- Program will continue
- **Future improvements:** vasovagal lecture and pre and post confidence testing

THANK YOU!