

# A How-To Toolkit for Teaching Residents Common Musculoskeletal Injections Performed in Primary Care

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## Background

- Musculoskeletal concerns are very commonly encountered in primary care, & can account for nearly 20% of appointments annually<sup>1</sup>
- Musculoskeletal injections are a key diagnostic & therapeutic tool that can be offered to adult patients in outpatient settings
- Common indications for steroid injections with local anesthetics include osteoarthritis, bursitis, & tenosynovitis
- Many learners are interested in performing these procedures, but feel uncomfortable about offering them due to a lack of training, insufficient experience, &/or concerns about litigation
- These services can be simple to perform, significantly augment practice revenue through appropriate billing & coding measures, as well as add provider-patient satisfaction
- Educational workshops that integrate simulation trainers represent an easy & safe way to improve learner comfort & competence in these procedures, which can be performed in a Primary Care Physician's (PCPs) office

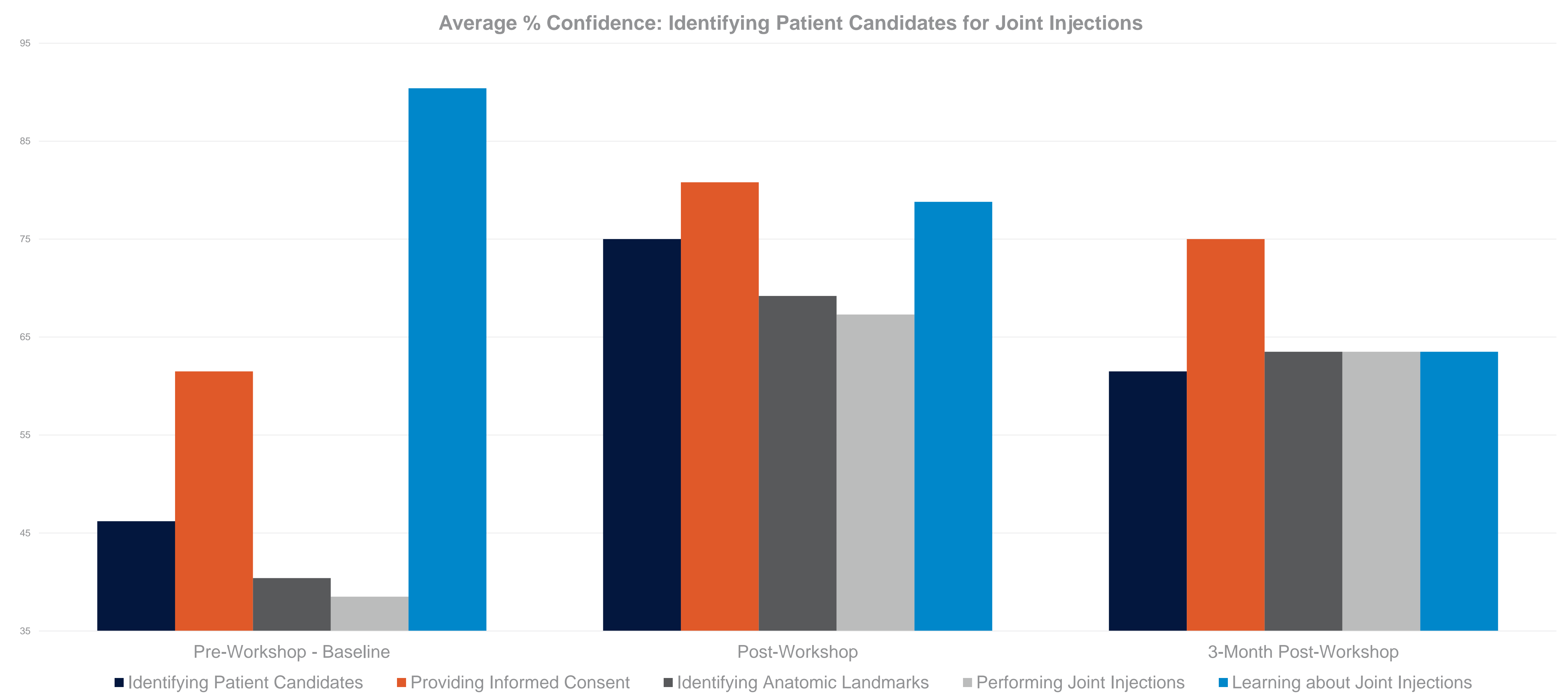
## Objective

- Demonstrate an approach to creating & teaching an effective joint injection workshop that can improve a learner's confidence & comfort level
- Share foundational tools that can be utilized to tailor the development of future workshops & optimize quality improvement

## Materials & Methods

- Developed a 180-minute joint injection workshop focusing on shoulder, wrist/hand, & knee joints that was presented by 2 Family Medicine faculty physicians during a resident didactic session to 15 Family Medicine residents
- Discussed indications & contraindications for joint injections & aspirations, components of informed consent, required equipment, as well as billing & coding
- Instructors educated learners about anatomic landmarks & proper techniques, demonstrated joint injections on simulated models, advised learners to palpate anatomic landmarks on the models & 5 other learners as well as demonstrate their techniques, & then they verified each of the learner's displayed landmarks & techniques
- Created a performance checklist with 20 critical tasks & a performance scoring guide to evaluate competency, as well as pre-workshop, post-workshop, & 3-month post-workshop surveys to assess self-reported learner confidence
- Surveys inquired about % comfort in identifying candidates for joint injections, providing informed consent, locating anatomic landmarks, & performing injections; as well as interest in learning more about joint injections at 0/25/50/75/100% intervals
- 13 of 15 learners anonymously completed each of the 3 surveys, & data was analyzed (please see tables)

## Results



## Discussion

- Every learner found the injection workshop to be educationally beneficial
- Average % confidence markedly improved post-workshop with relation to: 1) identifying patient candidates, 2) performing informed consent, 3) identifying anatomic landmarks, & 4) performing joint injections, & remained at least 15% higher than baseline at 3 months post-workshop
- This trend seems to reflect that the learners found the training to be persistently meaningful & clinically relevant
- It could possibly be enriched in the future by offering subsequent joint injection workshops (e.g. – on a quarterly basis) & encouraging learners to more proactively offer this important diagnostic & therapeutic tool to patients with indications for its use while being precepted in clinic
- Average % confidence/interest in learning about joint injections remained > 60% both post-workshop & at 3 months post-workshop
- This finding may potentially be attributed to learners enjoying the educational content & retaining the majority of the information gleaned from the joint injection workshop
- It can be further evaluated during future workshops by developing more targeted questions with relation to learning about joint injections on both the post-workshop and 3 month post-workshop surveys
- Data interpretation may be limited by a relatively small sample size of learners, as well as dependence on self-reported survey responses
- May consider making each of the 3 surveys non-anonymous during future workshops in order to more definitively track data-related trends

## Conclusion

- Musculoskeletal injection workshops can result in a sustained improvement in self-reported learner comfort & knowledge regarding these procedures
- A standardized approach to patient selection, landmark identification on both simulation models & other learners, as well as providing structured guidance on procedural technique can improve provider comfort & patient safety
- This improvement in provider comfort can lead to a reduction in specialist consults & patient cost, as well as an expansion of services provided at a PCPs office & increase in a PCPs revenue
- The further development of future workshops is needed in order to create processes to assess learner competency

## References

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