

Introducing Ultrasound-Guided Peripheral IV Insertion to Nursing Students Through a Student-Led Workshop: Assessing Outcomes and Effectiveness

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INTRODUCTION

- Patients presenting with difficult intravenous access (DIVA) represent a significant challenge, often resulting in delayed interventions and complications arising from multiple attempts at insertion (1,2,3).
- While evidence supports Ultrasound-Guided Peripheral Intravenous (USGPIV) insertion for DIVA patients (4,5,6), this technique remains widely absent from undergraduate nursing curricula.

PURPOSE

- To evaluate the impact of a student-led workshop on perceived knowledge, confidence, and interest in USGPIV insertion.
- To explore student perspectives on integrating USGPIV insertion training into undergraduate nursing education.



Figure 1
USGPIV Insertion Teaching by Nipro Representatives



Figure 2
Nipro IP-ECHO™ Ultrasound and Kit

METHOD

Sixty-six students registered for the workshop. 24 students attended despite difficult travel conditions on that day.

Pre & Post Workshop Surveys

- Participants completed pre- and post-workshop surveys assessing familiarity with USGPIV insertion and confidence in managing DIVA patients.
- Three sessions were delivered by two representatives from Nipro Canada.
- Workshop included theory on venous anatomy and USGPIV insertion, followed by hands-on insertion practice on simulation models using the IP-ECHO™ device.

RESULTS

- 24 nursing students completed both surveys
 - Majority were first-year students (66.7%), followed by second-year (24.2%) and third-year (9.1%) students.
- Low baseline confidence among 2nd- and 3rd-year students with PIVC insertion in DIVA patients: 54.5% not confident at all; 40.9% slightly confident.
- None had received formal training.
- 62.5% perceived the workshop as very beneficial; 37.5% beneficial.
- 62.5% believe USGPIV insertion should be learned before clinical practice.
- High interest in future training: 87.5% likely to participate for academic credit, 91.7% interested in advanced training

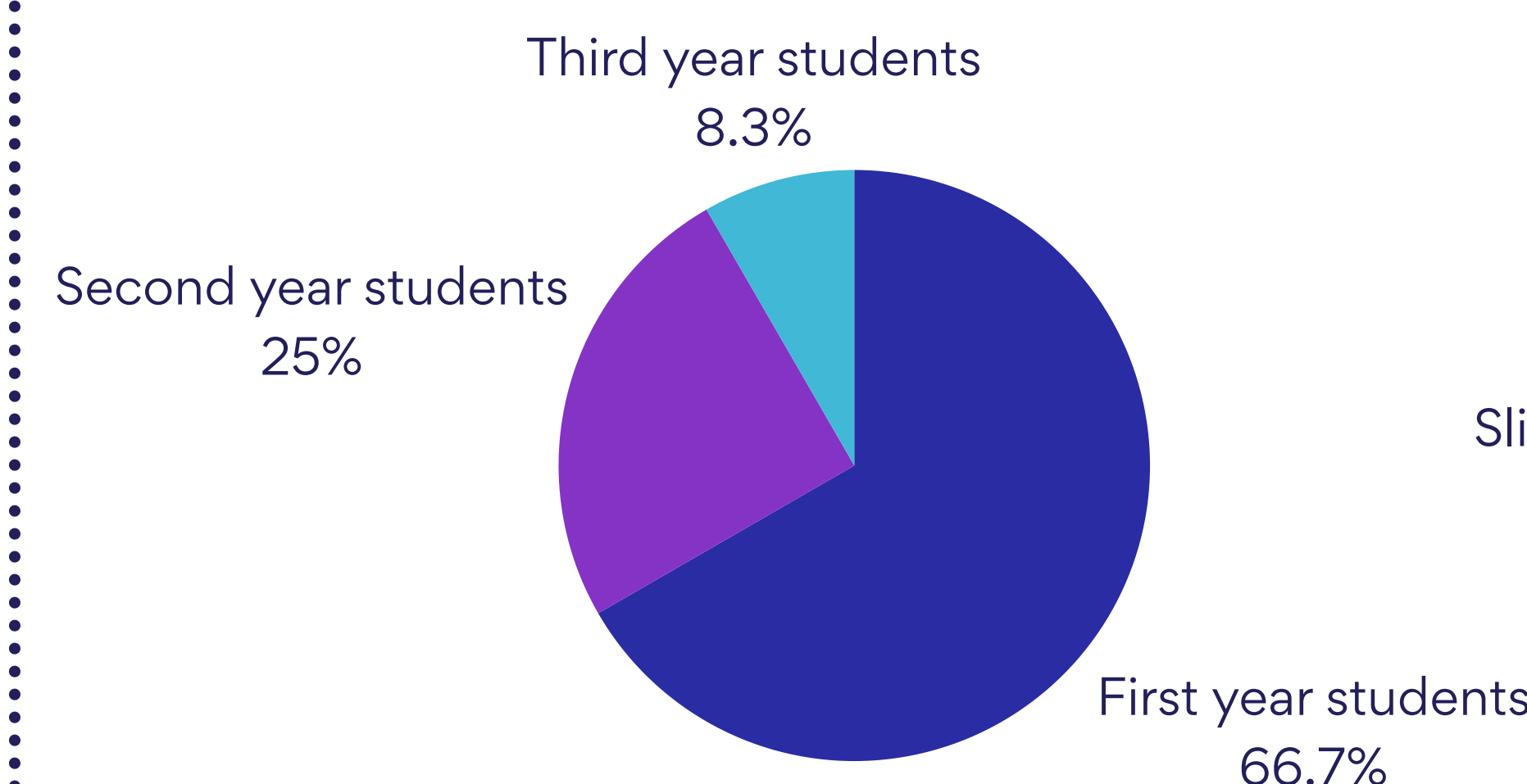


Figure 1. Distribution of Participants by Year of Study

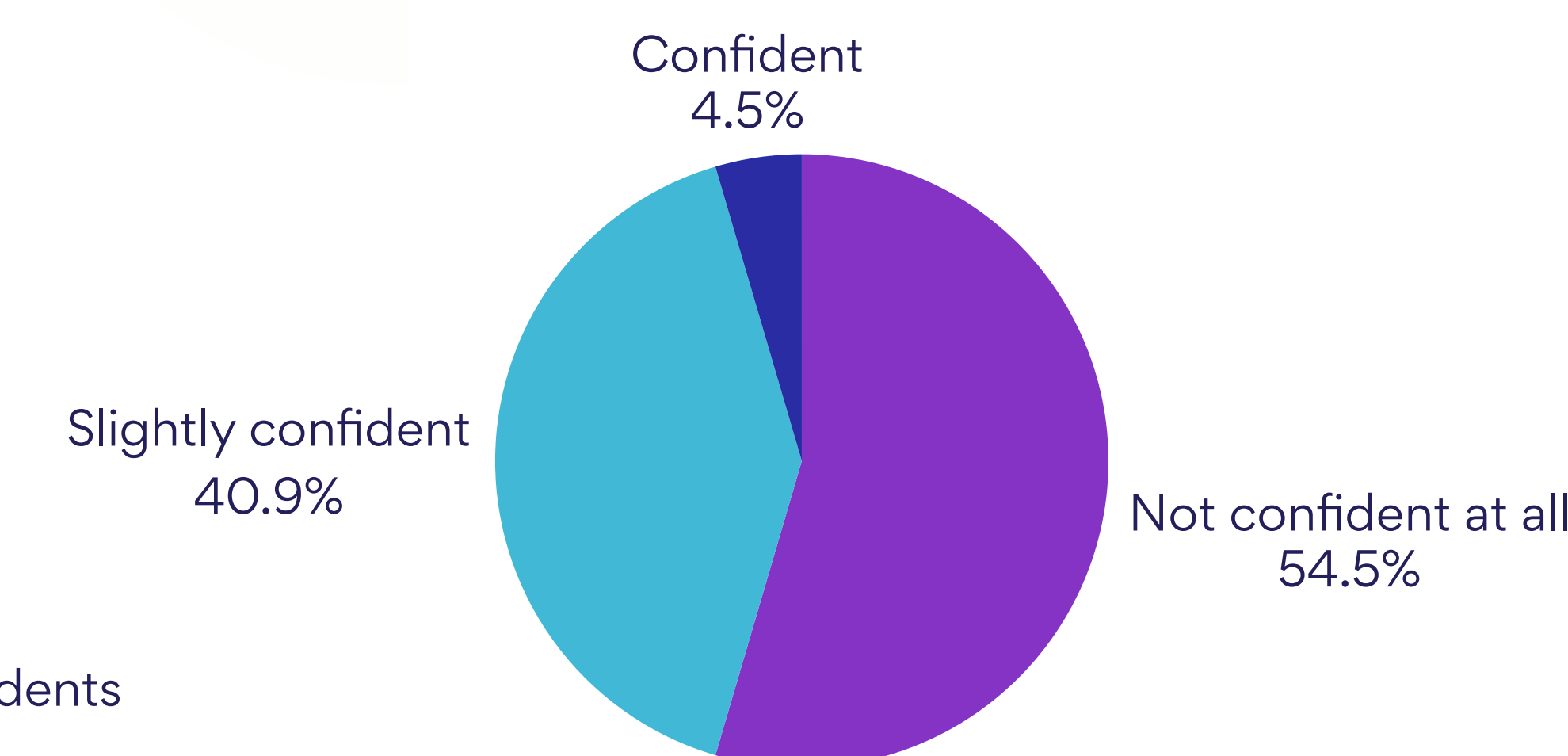


Figure 2. Self-Reported Confidence in PIVC Insertion Among Second- and Third-Year Nursing Students

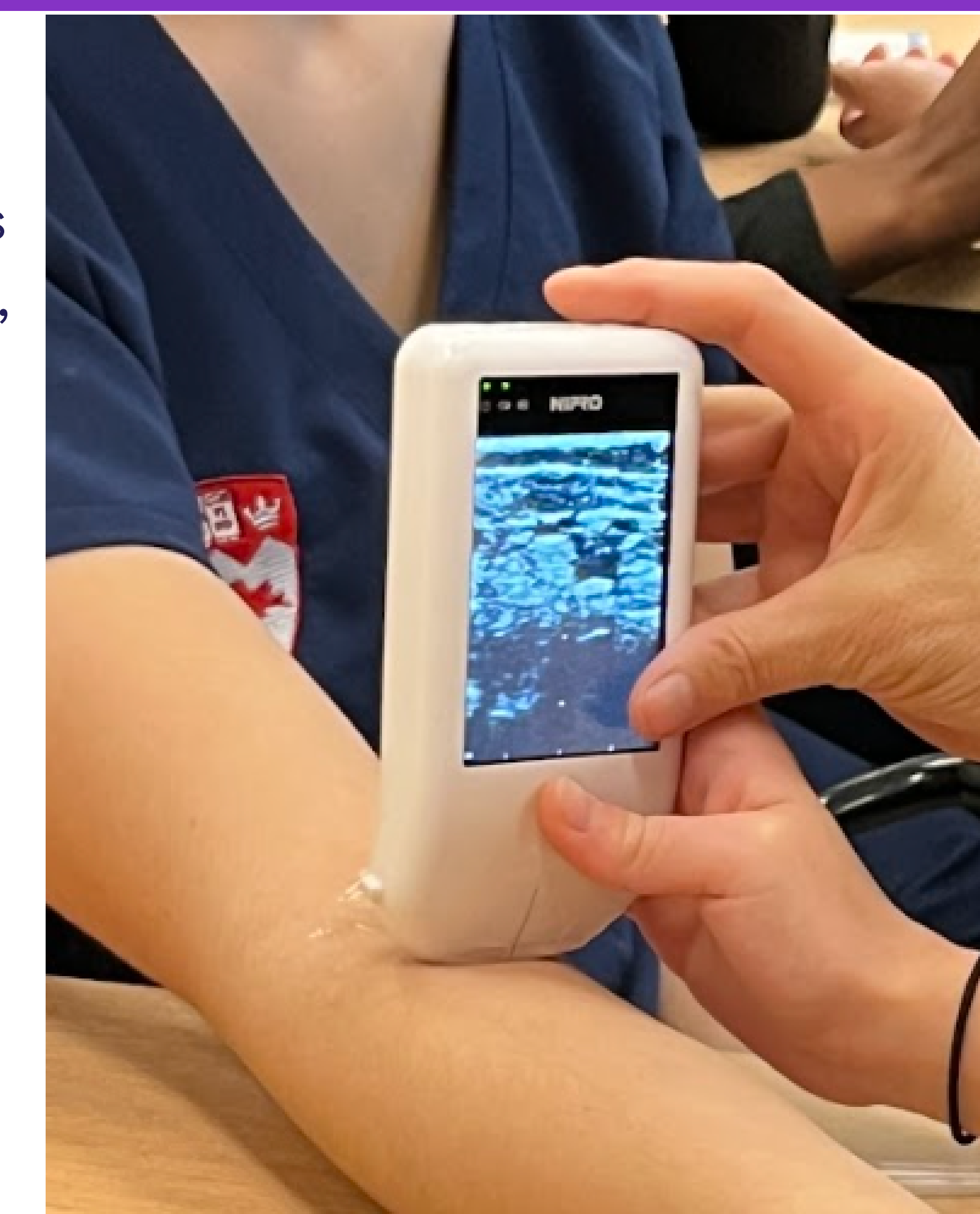


Figure 3
McGill Nursing Students Practicing USGPIV insertion at the VASC x Nipro Workshop

ANALYSIS

- A clear curricular gap was found as students reported encountering USGPIVs in clinical settings but lacked the opportunity to acquire skills.
 - Underscores the relevance of teaching innovative nursing practices to improve care, especially for critical care and DIVA patients.
- Untapped demand was identified, with exposure through a single short workshop perceived as beneficial, triggering high interest in further advanced training.
 - This suggests students are ready and willing to engage if opportunities are offered.
 - Ongoing training is needed to build real competence.

CONCLUSION

- Integrating structured USGPIV insertion training into undergraduate nursing education can address a clear gap in student preparation for managing DIVA patients.
- Introducing this content before licensing may strengthen perceived knowledge and confidence, support clinical preparedness, and promote more effective vascular access care for DIVA patients upon entering the workforce

REFERENCES

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