

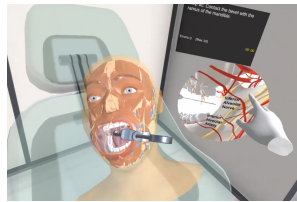


NYU



# Local Anesthesia VR

**LocalAnesthesiaVR is a Virtual Reality-based simulation system for dental education.**



LocalAnesthesiaVR<sup>TM</sup> is an immersive Virtual Reality-based simulation system for dental education. It was designed and developed by a team of clinicians, human-computer interaction experts, and instructional designers at the NYU College of Dentistry. It enables students in pre-clinical education programs to acquire hands-on practice in the technique of inferior alveolar nerve block (IANB) in a feedback-rich, low-stress immersive environment.

It consists of two separate software modules: Syringe Assembly, a module where the user is enabled to assemble the components of a syringe used to apply local anesthesia, and IANB-30, a module that enables users to learn and practice the complete procedure of local anesthesia delivery, including patient ergonomics, recognition of anatomical landmarks in a realistic anatomical model, and the hands-on application of an intraoral block injection on tooth # 30. The modules feature two modes: Practice Mode, where the learner receives individualized, performance-based feedback as text, visual cues, sounds and haptic vibrations, and Assessment Mode, where the feedback is kept to a minimum, so the learner can focus on completing the task without critical errors. User performance data can be collected through an integration with a cloud database for analysis and individualized feedback (this option is not provided under the base agreement available through this site; please contact us for additional information.)

For schools or institutions wishing to try the system, please select the "Demo" license to the right, or if you're an individual or an institution ready to purchase, please select the Standard license.

\*Upon completion of the license process, please review the following video for step-by-step installation instructions: [How to Install LocalAnesthesiaVR on Meta Quest](#)

## Technology ID

LEV09-01

## Category

Creative Works

Software & IT/Education &

Training

Software & IT/Simulation &

Modeling

Copyright/Education & Training

Beth Sheckler

Arundithi Ananthanarayanan

## Authors

NYU College of Dentistry

## View online



## References

1. Grandhi, U; Opazo, C.(11 August 2021) ,  
<https://dl.acm.org/doi/fullHtml/10.1145/3450549.3464411>, <https://dl.acm.org/>, 4, 1-2
2. McAlpin, E; Levine, M; Opazo, C, et al.(2022) ,  
<https://onlinelibrary.wiley.com/doi/10.1111/eje.12854>,  
<https://onlinelibrary.wiley.com/journal/16000579>, 00, 1-12