



University of the Pacific Arthur A. Dugoni School of Dentistry
126th Alumni Association Annual Meeting – 2025 Alumni Weekend
Including The 39th Frederick T. West Orthodontics Lectureship and
The 2nd Alan H. Gluskin Endodontics Symposium



Walid Nehme, DDS, MSc, PhD

Saturday, February 1, 2025

2 CE units

Subject Area: Endodontics

Title: "Preventing and Managing NiTi File Fractures: Heat Treatment Innovations and Strategies for Retrieving Separated Instruments"

Course Description:

Separation of Nickel-Titanium (NiTi) files within the root canal is a challenging complication in Endodontics. This typically occurs due to cyclic fatigue, torsional stress, or improper use of the instruments during root canal treatment. When a file breaks, it can obstruct further cleaning and shaping of the canal, potentially leading to treatment failure if not properly addressed. Retrieval of broken fragments is often difficult, especially when they are located deep in the canal or curved sections. Advances in manufacturing strategies such as heat-treatment of NiTi files, prevention and retrieval techniques, help minimize these risks and improve clinical outcomes.

Objectives:

- 1) Provide an in-depth understanding of the microstructure of Nickel-Titanium (NiTi) alloys and how heat treatment enhances their flexibility and strength, reducing the risk of file fracture.
- 2) Understand the causes and clinical implications of NiTi file separation during endodontic procedures, including factors such as cyclic fatigue and torsional stress.
- 3) Explore various techniques and technologies available for the safe and effective retrieval of broken instruments from root canals.
- 4) Gain proficiency in the use of magnification tools, ultrasonic devices, and specialized retrieval kits for accessing and removing separated files.
- 5) Develop strategies to minimize the risk of file breakage during root canal treatment, including proper instrument handling and the use of heat-treated NiTi files.

Short Bio:

Professor Walid Nehme, DDS, MSc, PhD is an Associate professor at University of the Pacific Arthur Dugoni School of Dentistry, a former head of endodontic department at Saint Joseph University in Beirut and an Invited Professor at Mohamed Bin Rashid University in Dubai, UAE. With a Doctorate in Dental Surgery (1988), a Master's in Endodontics (1994), and a PhD (2013) from Saint Joseph University, he has over three decades of experience in the field of endodontics.

Professor Nehme has dedicated his career to both clinical practice and academia, specializing in undergraduate and postgraduate endodontic education, research

supervision, and training. His research and numerous publications in peer-reviewed journals cover topics such as root canal anatomy, instrumentation techniques, NiTi files, irrigation procedures, obturation, and retreatment.

An international member of the American Association of Endodontists (AAE), Professor Nehme has served as the President of the Lebanese Society of Endodontology (LSE). He is also a founder and former president of the Arab Endodontic Society (AES). He is the president elect of the Pan Asiatic Endodontic Confederation (APEC)

As a thought leader in endodontic innovation, Professor Nehme has developed endodontic motors and designed Endodontic NiTi files, holding several patents for his advancements in these areas. He has contributed significantly to clinical trials for the development of new endodontic devices. He conducts postgraduate courses and workshops across the Middle East, Africa, Europe, and Canada. Professor Nehme maintains a faculty practice limited to endodontics at UOP.