

SCOPE OF INNOVATION AND PRODUCT DEVELOPMENT IN ENDODONTICS & RESTORATIVE DENTISTRY

Date: 5th July 2022

A Session on Scope of innovation and Product development in Endodontics & Restorative Dentistry was organized on 5th July 2022 by CMIE Secretariat along with the Department of Conservative Dentistry and Endodontics, Centre for Dental Education and Research to explore more about the scope of innovations and product in Endodontics & Restorative in dentistry. Dentistry is also known as dental medicine as well as Oral Medicine. Dentistry is also considered as one of the branches of medicine that consists of diagnosis, medicine, oral cavity treatment for the diseases that cause in the oral cavity, and Endodontics is a routine part of restorative dental procedures. Basically, endodontics is a dental specialty that deals with dental pulp. Root canal therapy is one of the common procedures followed in endodontic treatments.

The session was initiated with a welcome note by Prof. Alok Thakar, Project In-charge, CMIE. Prof. A K Dinda, CCO, CMIE introduced the participants to CMIE, AIIMS BioNEST Bio-incubator. The webinar was registered by 85+ participants including start-ups, entrepreneurs, researchers, and students with the preliminary scope to create awareness about the scope of innovations and the application-oriented product developed in the field of Endodontics & Restorative Dentistry.

The session was further elaborated by Prof. Ajay Logani on the topic of Endodontics & Restorative in dentistry and explained the following issues briefly:

- ❖ Pulpotomy and root canal treatment, restoration/filling depending on the stage of dental caries. Persistent microbes could result in failure of treatment and there is no method to determine the microbiological status of root canal treatment.
- ❖ There is a need to innovate technology/ device for pulp vitality evaluation i.e. evaluation of the pulp blood flow is a true indicator of pulp status.
- ❖ Root Canal harbors microbes. Hence disinfection is paramount for successful root canal treatment. Currently available intracanal medicament requires replenishment within 3-5 days. There is scope for innovation for a sustained release intracanal antimicrobial device and deeper dentinal tubule penetration and also a chairside nanotechnology fabrication-based lab on chip multiplexed PCR device (15-20 mins), to determine the true microbiological status prior to root canal fillings.
- ❖ Over bleeding may cause pulp inflammation. Control of bleeding is very important in root canal treatment; the degree of inflammation can be assessed by quantification of inflammatory mediators (MMP9, IL12, etc. in pulpal blood. Need a chairside dipstick test for assessing the same.

Prof Ajay Logani explained that it is essential to remember that endodontic therapy alone is not the final effort in the preservation of the involved tooth. Careful consideration must be given at the time of diagnosis to the restorative and periodontal technique with various other solutions available in the market. The session was closed with a Q&A session, where participants clarified their doubts. The webinar was ended with a vote of thanks by Dr. Nancy to the speakers, participants, and the CMIE Team.

