



Enhanced Patient Safety using UHR-RFID for Tracking Dental Instruments

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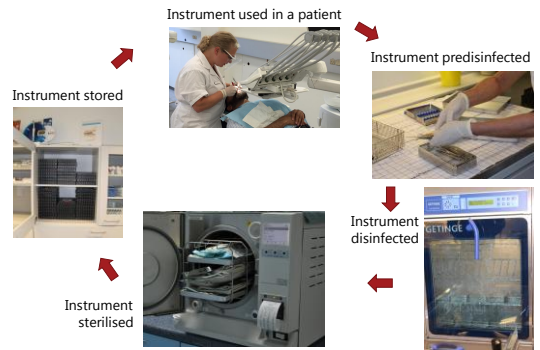

Possible transmission of infectious diseases from patient to patient

Possible transmission of infectious diseases between patients and therapist and *vice versa*



Requirements for optimal hygiene in the dental office

Instruments life in a dental clinic



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Requirements for optimal hygiene in the dental office

More recently we are meet with requirements for documentation of the optimal hygiene in the dental office

Scanning of instruments



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Scanning of instruments

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Instruments life in a dental clinic is now recorded in a log file

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Instruments life in a dental clinic is now recorded in a log file

Improvements in patient safety

- Instruments status of hygiene is recorded
- Alarm when step backwards in the hygiene cycle
- Operators of the five step in the cycle is recorded
- Data on disinfection and sterilisation can be connected to the specific instruments e.g. temperature and time

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Instruments life in a dental clinic is now recorded in a log file

Improvements in patient safety

- Data on operator and patient can be connected to the specific instruments
- Restriction can be programmed for each student's rights to use different instruments and materials

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Instruments life in a dental clinic is now recorded in a log file

Improvements in clinic management

- After predetermined numbers of cycles an alarm can "sent" instruments for planned maintenance
- The frequency of use of the different instruments can be analysed and lifecycle estimates can be calculated to improve inventory management and investment
- Different operators preference of instruments can be detected
- Loos of instruments can be identified
- Anti-theft alarm can be installed

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Future developments using the RFID tagged technology

- Identification number for the dental materials used in a patient can be linked into the patients personal file, too
- We can monitor our entire inventory and improve our management and investments

Future developments using the RFID tagged technology

- We can extract information on the use of our dental units, which is a very expensive resource. By reducing wasted time with allocated unit we can improve our time management of resources for students
- We can monitor our students workload by analysing our recordings in the log files instead of how we keep recordings today
- Not all that can be recorded should be recorded – the ethics of recordings in a workplace



In conclusion

RFID-tags in instruments

- makes it easy to record and document their status in the hygiene process and prevent using non-sterile instruments which increases patient safety
- increases the knowledge on turnover of instruments in the clinic and thereby increases the possibilities for effective management and maintenance of inventory and instruments
- opens for many forms of application that may be beneficial in ordinary dental clinics as well as in other medical settings. The advantages seems especially great in larger environments such as schools, hospitals and group practices

Thanks to all those who supported the implementation of introducing RFID-tagged instruments in our clinic at the School of Oral Health Care, University of Copenhagen



Nanna Sødal Sørensen, Malene Nielsen, Vicki Abildgaard, LM-Dental LM instruments OY Finland, students and staff at the School of Oral Health Care, University of Copenhagen

