

# Advanced monitoring for drug therapy adherence

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MAECON symposium, 18 november 2019

## Biological matrices for drug monitoring

- Blood
  - Drug monitoring (TDM)
- Saliva
  - Drug of abuse monitoring
- Urine
  - Drug of abuse monitoring
- Hair
  - Forensics

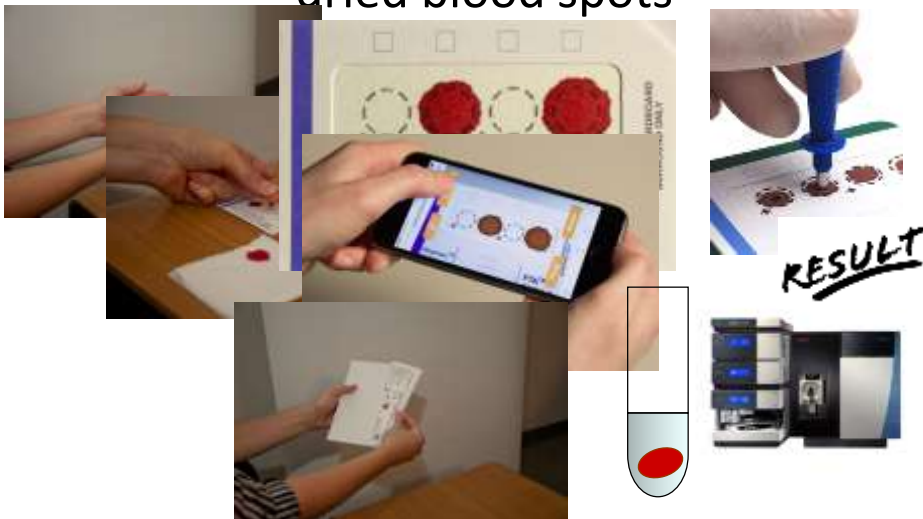


# Home blood sampling

- Obvious advantages:
  - planning samples in relation to drug administration
  - Less burden for the patient



## Home sampling using dried blood spots



## Home sampling using Mitra



**RESULT**



## Home blood sampling

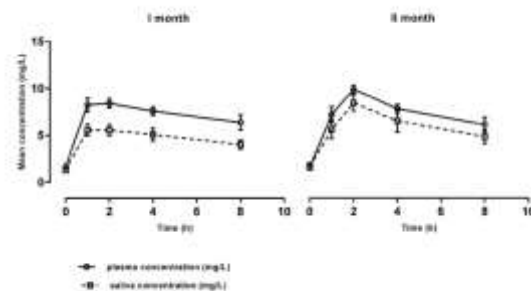
- Suitable for exposure monitoring for dose adjustment in adherent patients
- Not suitable for adherence monitoring
- Not suitable for long term exposure monitoring

# Saliva



- Saliva
  - Few drugs investigated
  - Levofloxacin seems promising (AAC 2019)

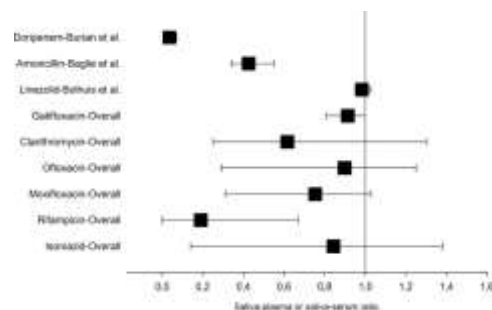
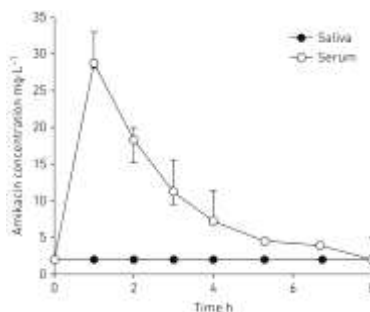
Pharmacokinetics of Levofloxacin in MDR-TB Patients



# Saliva

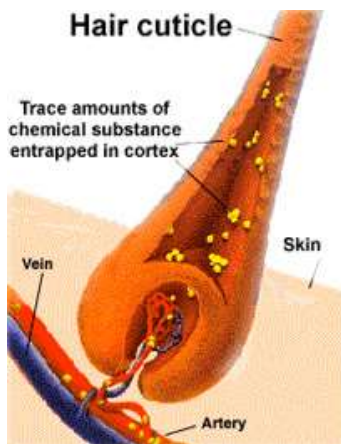


- Saliva
  - Few drugs investigated
  - Other drugs, however, are less promising (TDM 2018, ERJ 2018)

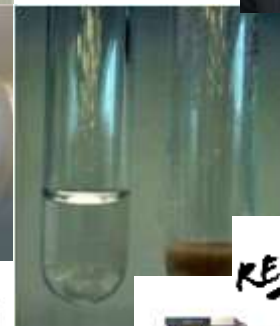
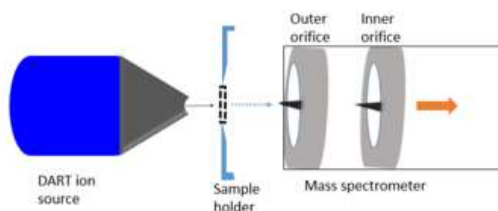


## Drug exposure in hair

- Hair grows about 1 cm/month



## Hair





## Conclusions



- Blood levels of drugs only give a momentary view of drug exposure, with risk of misinterpretation and no information on long term exposure or adherence
- Alternative sampling may facilitate drug monitoring but still provide a momentary view
- Hair sampling may give more insight in long term exposure