UNIVERSAL ACTIVITY NUMBER (UAN): 0475-0000-19-037-H05-P

Provider Name: European Association of Hospital Pharmacists (EAHP)

Joint Provider(s): 0000 No Joint Providership (H)

Activity Type: Knowledge

Activity Title: Therapeutic drug monitoring as a tool for therapy optimisation

Learning Objectives: (Pharmacists)
- At the completion of this activity, the participant will be able to:
  - Recognise characteristics of drugs that make them good candidates for TDM
  - Describe appropriate indications for TDM
  - Understand the factors that may affect measured concentrations
  - List and discuss the importance of information needed when requesting drug concentration
  - Interpret measured drug concentrations
  - Adjust dose based on TDM
  - Apply basic concept of clinical pharmacokinetics to TDM
  - Understand indications for TDM
  - Understand the importance of time sampling
  - Understand factors that might affect drug concentrations
  - Describe analytical needs for therapeutic drug monitoring
  - Understand the importance of pharmacogenomics biomarkers
  - Understand the importance of genetic factors in the response to drugs
  - Describe a pharmacokinetic model for a drug using terms of Volume of distribution, elimination rate constant, renal clearance
  - Explain the error and residual error in the used population model
  - Describe the pharmacodynamic properties of beta lactam antibiotics
  - Describe the pharmacodynamic properties of aminoglycoside antibiotics
  - Describe the pharmacodynamic properties of the fluoroquinolone antibiotics
  - Explain why and how TDM should be used in psychiatry and neurology
  - Differentiate between therapeutic and dose related reference ranges
  - Explain how genotyping may be combined with TDM
  - Use TDM for identification of pharmacokinetic abnormalities
  - Understand basic clinical pharmacokinetics of oncolytics and immunosuppressants
  - Comprehend the rationale for TDM of oncolytics and immunosuppressants
  - Understand that TDM software tools affect efficiency not effectiveness
  - Understand the interaction between TDM processes, people and tools
  - Gain insight in how software tools support the TDM process cycle
  - Understand the key components of TDM software tools
  - Evaluate TDM software tools current available on the market (long/short list)
  - Assess the need for dose adjustment
  - Adjust the dose of drugs based on the results of TDM
  - Interpret measured drug concentration
  - Develop a Plan for therapeutic drug monitoring
  - Provide TDM service
  - Know how population pharmacokinetic models are developed
  - Know how population pharmacontinetic values are calculated into individual values
  - Interpret drug concentrations in blood and give recommendations for clinical decision making
  - Give recommendations in case of adverse drug reactions
  - Find out if low drug concentrations are due to poor adherence or due to rapid clearance
  - Decide if the dose should be maintained in spite of high drug concentrations
  - Understand current TDM concepts of oncolytic and immunosuppressive agents
  - Implement TDM of oncolytics and immunosuppressants
  - Interpret measured drug concentrations based on patient’s characteristics
  - Understand the need for dose adjustment
  - Describe the difficulties and solutions for the implementation of a TDM program in an environment of scarce resources
  - Describe, present and discuss a business plan to implement such a program in their own hospital setting

Activity Length: 5.4 Contact Hours Or 0.54 CEUs.