

guidelines, particularly concerning action that should be taken when assay results for tacrolimus, sirolimus and phenytoin are non-therapeutic. In view of these findings, guideline development and improving documentation of assay results should be areas of focus. Future studies could investigate the effect of guideline adherence on drug efficacy or clinical outcome.

P 50 **AN AUDIT OF THERAPEUTIC DRUG MONITORING
IN PAEDIATRIC PATIENTS**

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Aim To investigate whether the current practice of therapeutic drug monitoring (TDM) within a large paediatric hospital adheres to hospital guidelines with respect to initial drug dosing, timing of assay, documentation of TDM assay and action taken as a consequence of the assay result.

Method Drugs requiring TDM were identified from guidelines within the hospital formulary. Inpatients prescribed a TDM drug were identified by ward pharmacists during a six-week period in Oct-Nov 2013. Data was retrieved from each patient's drug chart, medical notes and electronic patient record and recorded on a standard data collection form. The data collected included: patient details, TDM drug(s) prescribed, initial drug dose, time assay conducted, whether assay result was documented and any action taken. The data was analysed to determine whether each dose, the time of each assay and each action taken was in accordance with hospital guidelines. Statistical analysis was conducted to determine the extent of guideline adherence.

Results Ten drugs requiring TDM were prescribed during the study period: dalteparin, digoxin, gentamicin, phenobarbital, phenytoin, sirolimus, tacrolimus, unfractionated heparin, vancomycin and warfarin. Sixty-five inpatients were prescribed at least one TDM drug and 192 TDM assays were conducted. Of the 67 TDM drugs that were initiated during the current admission, 55 (82.1%) were prescribed at the correct initial dose. It was found that 149/192 (77.6%) TDM assays were conducted at the correct time in relation to the time since initiation of treatment and the time since the previous dose. Results were documented in the medical notes or on the drug chart for 101/192 (52.6%) assays. Appropriate action (according to hospital guidelines) was taken following 149/192 (77.6%) assay results, although appropriateness could not be determined for tacrolimus, sirolimus and phenytoin (38/192; 19.8%) due to lack of guidance concerning what action should be taken following a non-therapeutic assay result.

Conclusion The results showed that the current practice of TDM is largely in accordance with hospital guidelines. During the study period, most initial doses were prescribed correctly and most TDM assays were conducted at the correct time, although results were documented for only half the assays conducted. The findings did highlight limitations within the