Background A paediatric nalbuphine formulation is prepared in the hospital pharmacy of the Nouvel Hôpital Civil of Strasbourg. It was previously checked by HPLC. Following the acquisition of an UV-Raman spectrometer, a method was developed in order to improve the monitoring of nalbuphine preparation.

Purpose To cheque paediatric nalbuphine formulations with a simple, fast and reliable method by using UV-Raman spectroscopy.

Materials and Methods In order to validate a method using the QC-prep (a UV-Raman spectrometer), we prepared three concentration ranges, prepared by diluting three different samples of nalbuphine reconstituted in 0.9% NaCl. Each range was composed of 5 points of calibration. The linearity was validated from the average of the three ranges. The fidelity of the method is tested by repeatability and reproducibility (five different solutions were sampled at one time).

The method is considered as valid if the linearity is good enough ($r^2 > 0.999$) and the coefficient of variation (CV) and relative error of repeatability and reproducibility are below 5%.

Results The QC-prep method for nalbuphine 1 mg/ml in 0.9% NaCl is valid in terms of:

- Linearity: the calibration is linear from 0.2 to 2.0 mg/ml ($r^2 = 0.9997$)
- Repeatability: the CV is less than 0.25%
- Reproducibility: the CV is less than 2.5%
- Accuracy: the relative error is less than 5%

Five different batches have been checked in routine work. No mistakes have been identified, either in the concentration of the drug (quality control and sample), or in identification of the solvent.

Conclusions Calibration of the QC-prep is simple thanks to easy-to-use software. This is a powerful tool that enables us to determine the concentration of nalbuphine more quickly, easily and safely than the HPLC method previously used. The UV-Raman spectroscopy method could be extended to the analysis of other formulations such as paediatric antibiotics preparations.

No conflict of interest.

**TCH-046 THE ADVANTAGES OF UV-RAMAN SPECTROSCOPY FOR CHECKING THE STRENGTH OF NALBUPHINE PREPARATIONS**

doi:10.1136/ehjpharm-2013-000276.237


Background A paediatric nalbuphine formulation is prepared in the hospital pharmacy of the Nouvel Hôpital Civil of Strasbourg. It was previously checked by HPLC. Following the acquisition of an UV-Raman spectrometer, a method was developed in order to improve the monitoring of nalbuphine preparation.

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No conflict of interest.

**TCH-048 THE SECURITY OF PHARMACOKINETIC INFORMATION IN ELECTRONIC HEALTH RECORDS**

doi:10.1136/ehjpharm-2013-000276.239

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Background Accurate and complete electronic health record (EHR) information is essential for patient safety, especially when drugs with a narrow therapeutic range are involved.

Purpose To evaluate the quality and quantity of information recorded in EHRs concerning pharmaceutical interventions (PIs) generated by therapeutic drug monitoring (TDM).

Materials and Methods For 6 months, all onco-haematology inpatients were evaluated who were receiving vancomycin ($\geq$3 doses). Renal function (RF) was classified into four categories: severe, moderate and mild renal impairment (RI) and normal RF for creatinine clearance (by Cockcroft-Gault equation) $<10$, 10–50, 50–90, $>90$ ml/min, respectively. PIs were classified into three categories of importance (high, moderate and low) according to the pharmacotherapy follow-up and the relation between plasma concentration and optimal therapeutic range.

The completeness of EHRs regarding the RF and TDM process (ordering, result and PI-related parameters) was assessed.

A binary logistic regression with odds ratio (OR) was performed using SPSS v.15.0.

Results TDM was performed for 39 (81%) of 48 patients receiving vancomycin. The median age was 57 years (95%CI: 52–62); 26 were male (68%); 21 (54%) had mild to moderate RI.

There were 76 PIs [median 2/patient (IQR: 2)], 51 (67%), 4 (5%) and 21 (28%) of high, medium and low importance, respectively; 67 (88%) were accepted.
The EHRs did not record RF evolution, TDM requests and results or PIs in 53 (70%), 23 (30%), 39 (51%) and 61 (80%) cases respectively.

OR for recorded TDM results related to highly important PIs compared to low-importance PIs, for recorded TDM ordering related to moderate RI compared to normal RF and records for RF evolution related to moderate RI compared to normal RF were 3 (95%CI: 1–9; p = 0.046), 0.3 (95%CI: 0.8–0.9; p = 0.04) and 4 (95%CI: 1–16; p = 0.029), respectively. A significant linear trend was observed. OR for all other variables was non-significant.

Conclusions The low percentage recording of TDM-related variables and pharmacist interventions in EHR potentially limits inter-professional communication and the decision-making process. This fact highlights the need for clinical pharmacists to safeguard the information they have discovered by recording their interventions in the EHR as a clinical episode in comprehensive patient care. This will increase the visibility of the pharmacist and the effect of his/her actions.

No conflict of interest.