

**ADMINISTRATION OF MEDICINES IN THE  
HOSPITAL**

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## Introduction

The administration of medicines to the hospitalised patient is the result of the thoughts and actions of every department within the hospital. There are three important implications:

1. No department can perform the act of medication administration without prior preparation.
2. Medicines must be administered to the right patient at the right time, in the correct dose and form.
3. Communication among all hospital staff involved in administering medicines is essential (Guourley et al., 1986).

The hospital drug distribution system begins at the pharmacy and ends at the patient, as shown below.

At the *pharmacy* department:

Ordering/receiving medicines from the manufacturer;  
Storing medicines  
Preparation for dispensing (includes compounding, measuring, packaging and labelling)  
Dispensing  
Transportation to ward

On the *ward*:

Ordering/receiving medicines from the pharmacy  
Storing medicines  
Preparation for administration  
*Administration to patient* (Barker & Pearson, 1986).

## Methodology

### Study 1

The administration of oral solid and liquid medicaments was observed in various wards in St Luke's Hospital during the medicine administration rounds, in order to deduce whether the procedure is up to the standard required to ensure the safety of the patient. Time constraints did not permit the observation of the other routes of administration. 25 wards, pertaining to 4 different specialities, participated in the study. All the

observations in this study represent the actual procedure that occurred when a random spot check of the wards took place. A survey sheet was prepared to record all the observations. Each sheet was completed at the end of each round. The In-Patients' Prescription Sheets were also observed in order to deduce whether doctors and nurses were using the prescription sheets correctly.

## Study 2

Errors in drug administration can be reduced in many ways, one of which being the accurate prescribing and recording of medicines. All administered, refused and omitted medication dose should be recorded (American Society of Hospital Pharmacists, 1980). In fact, thorough and accurate records of the administration must be maintained (U.K. Central Council for Nursing, Midwifery and Health Visiting, 1986). In St Luke's Hospital, a single sheet is used for both the prescribing of drugs and the record of their administration.

Study 1 resulted in the urgent need of revising the prescription sheet. Therefore, an alternative prescription sheet was designed which was subjected to a one month trial in three wards; a paediatric, medical and a surgical ward. A major change in the prescription sheet was the increase in the number of pages due to the introduction of:

1. Instructions to doctors and nurses on the correct use of the prescription sheet;
2. More prescribing lines;
3. New sections e.g. 'Anticoagulant Therapy', 'Pharmacy', 'Drugs Not Administered'.

It was intended that the prescription sheets would be renewed every 14 days and thus eliminating the use of continuation sheets. The compliance by doctors and nurses towards the use of the proposed prescription sheet was evaluated. The final alterations to the proposed prescription sheet were made to produce a new 'St Luke's Hospital Ward Prescription Sheet and Record'.

## Results

### Study 1

Results obtained from the survey where the administration of oral medicines was observed were as follows:

**Table 1:** Equipment prepared to be used during the medicine administration rounds in 25 wards

Equipment	Value
Medicine trolley (unit for storing medicine containers)	84% (21)
Medicine spoons (to administer liquid medicine)	24% ( 6)
Medicine measures (to administer dose to patient)	4% ( 1)
Prescription sheets	88% (22)
Jug of water } (a glass of water facilitates	0% ( 0)*
Glasses } swallowing of a solid dose form)	0% ( 0)*
Reference book e.g. British National Formulary	0% ( 0)
Knife/File (to break scored tablets)	0% ( 0)
Disposable tissues	0% ( 0)
Disposable bags	0% ( 0)
Bowl of warm soapy water (to place used equipment in)	0% ( 0)

\* Usually patients have their own glass and water. This may be the reason for the absence of these items in the trolleys.

Two important deductions were made from the observations of the In-Patients' Prescription Sheets:

1. In most of the wards the prescription sheets were not used correctly by neither doctors nor nurses. Therefore, instructions had to be given on the correct use of the prescription sheet.
2. The design of the prescription sheet was inappropriate and may have been a source of error in drug administration.

**Table 2:** The procedure of oral drug administration

Number of wards where:	Value	Total
- medicine trolleys were found locked	14.3% (3)	21*
- nurses washed their hands prior to the medicine round	4.0% (1)	25
- medicine containers in the trolley were arranged in alphabetical order according to generic name	9.5% (2)	21*
- medicine containers in the trolley were covered with the appropriate cover caps	76.2% (2)	21*
- contact of medicines with nurse's hands was avoided during drug administration	4.0% (1)	25
- a second check against the prescription was carried out before administering the medicines	20.0% (5)	25
- interruptions occurred during the medicine round	24.0% (6)	25
- scored tablets were broken with a knife or file	0% (0)	6**
- separate spoons were used for each patient during the administration of liquid medicines	25.0% (1)	4#

(\*) In the remaining 4 wards, trolleys were not used during round.

(\*\*) Scored tablets were required to be broken in 6 wards.

(#) Liquid medicines were prescribed in 4 wards during the survey.

## Study 2

During the trial of the proposed prescription sheet in 3 wards, compliance to some of the instructions was as follows:

**Table 3: Compliance to instructions listed on prescription sheets**

	Compliance values in the different specialities		
	Medical	Surgical	Paediatric
Instructions given to <b>doctors</b> :	n=96*	n=274*	n=129*
- to insert the Med. Council Reg. No.	80.2% (77)	8.0% (22)	68.2% (88)
- to prescribe drugs using genetic name	30.2% (29)	71.9% (197)	59.7% (77)
Instructions given to <b>nurses</b> :	n=5**	n=46**	n=3**
- to use 'Drugs Not Administratives' section (to record reason when a medicine is not administered)	0% (0)	93.5% (43)	66.7% (2)

(\*) n=total number of prescriptions

(\*\*) n=total number of times when use of section was necessary

The finalised version of the prescription sheet has been accepted by the hospital authorities and is going to be printed for hospital use.

### Discussion

Study 1 has shown that the medicine trolleys, whenever used, were inadequately equipped leading to interruptions during the medicine round whenever there was a need for a missing item. The correct procedure of oral drug administration was observed by a few number of nurses from different specialities. Although problems, such as shortage of nursing staff exist, there can be no excuse to ensure that sufficient care is devoted to the medicine round. The ward pharmacist has an important role in this respect when he/she can advise his professional colleagues on the importance of safety in drug administration.

In Study 2, the compliance to the instructions varied from one ward to another, but the overall response was satisfactory. It is expected that on

long-term use compliance would improve. In the finalised version of the prescription sheet a pharmacy section was introduced in every prescribing line. This emphasises the importance of the pharmacist at ward level to ensure correct drug therapy.

### **Conclusion**

Oral drug administration needs to be improved to satisfy the patient's right to a high standard of care so that every regard is paid to safety. The prescribing and recording of medicines can be improved by the correct use of the new prescription sheet.

### **References**

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