

## RESEARCH

## CHRISTMAS 2011: PROFESSIONAL MATTERS

# Relevance of the expression “obs stable” in nursing observations: retrospective study

 OPEN ACCESS

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## Abstract

**Objective** To ascertain whether use of the term “obs stable” with respect to the nursing observations is so liberal as to render it meaningless.

**Design** Retrospective study.

**Setting** Three teaching hospitals in London, United Kingdom.

**Methods** We searched progress notes for the current admission of 46 inpatients for entries containing the phrases “obs stable” and “observations stable,” and reviewed the nursing observations recorded during the 24 hour period preceding each entry containing at least one phrase. We calculated the frequency of abnormalities and of persistent abnormalities (defined as occurring in every observation) observed during these 24 hour periods, and the range of observation values over a 24 hour period if at least two observations had been recorded.

**Results** We found at least one entry in 36 (78%) progress notes (95% confidence interval 66% to 90%). Observations in the 24 hours preceding an entry included at least one abnormality for 113 (71%) of 159 cases and at least one persistent abnormality for 31 (19%). The most frequently occurring abnormalities were tachypnoea (respiratory rate  $\geq 20$  breaths/min) and hypotension (systolic blood pressure  $< 100$  mm Hg). An abnormality occurred in the observations immediately preceding an entry in 42% of cases. Mean ranges of observations over 24 hours were within the limits of normal diurnal variation, although we found that some instances of greater than normal variability were described as “stable.”

**Conclusions** The expression “obs stable” does not reliably indicate normal observations or variations in observations within physiological limits. Doctors should avoid using the expression altogether or clarify it with further information.

## Introduction

The expression “obs stable” is written daily in hospital notes. But what does it really mean—a concise shorthand to avoid laborious transcription of essentially normal nursing

observations, or a suitably vague term that indicates some sense of wellness and equilibrium, and yet is not as committal as “obs normal” or “obs satisfactory”?

When doctors read medical notes, problems could arise if their interpretation of terms differs from that of the notes' author.<sup>1</sup> Differences in meaning attributed to commonly used phrases become evident when doctors are asked to assign numerical values to expressions such as “sometimes” and “never.”<sup>2</sup> Even within the same specialty, clinicians often mean different things despite using the same words; a study of endoscopists describing the size of gastric ulcers found that 31% described as “small” an ulcer which another classed as “large.”<sup>3</sup> Doctors' use of “obs stable” is another source of potentially misleading ambiguity which has so far gone unmentioned in the medical literature.

The word “stable” comes from the Latin “stabilis”, meaning steadfast or firm. The *New Oxford Dictionary of English* gives several definitions for the adjective, including “not likely to change or fail” or “firmly established.” The word's meaning in a medical context receives special mention: “not deteriorating in health after an injury or operation.” But surely a professional definition of “obs stable” needs rigorous physiological characterisation? Certainly, the lack of consensus on the phrase's meaning has led some senior doctors to prohibit their junior staff from using the expression.

From our experience of ward round discussions on the subject, most criticisms come from the following two, excuse us, stables. Firstly, “stable” might be interpreted as “normal,” suggesting no action is needed. But a patient with persistent tachycardia has “stable” observations; indeed, the diagnosis of death necessitates very “stable” observations. Secondly, “obs stable” implies a lack of rigour, suggesting a cursory glance over the chart rather than a detailed analysis of the nursing observations.

We sought to measure the range of observations which doctors record as “stable,” to ascertain whether their use of the term is so liberal as to render it meaningless.

## Methods

### Design and setting

We did a retrospective review of case notes and nursing observations charts of 46 inpatients who received level one care in adult medical and surgical wards in three teaching hospitals in London, United Kingdom.

### Data collection

We selected the first four to six sets of inpatient progress notes according to bed order from 11 wards across the three sites. We searched these notes for doctors’ entries containing the phrases “obs stable” and “observations stable.” For each entry containing at least one of these phrases, we recorded the nursing observations (that is, temperature, blood pressure, heart rate, respiratory rate, and oxygen saturation) from the bedside chart during the 24 hours preceding each entry, as well as the date and time of the entry, grade of the senior doctor in the title, and grade of the note’s author.

### Analysis

In the nursing observations recorded during the 24 hour period before each entry, we calculated the frequency of abnormalities (defined in table 1) and persistent abnormalities (defined as occurring in every observation), as well as the frequency of abnormalities in the set of observations immediately preceding each entry. We also calculated the range of values (maximum–minimum) if at least two nursing observations were recorded within a 24 hour period.

## Results

We found at least one entry (that is, containing either “obs stable” or “observations stable”) in 36 (78%) of the 46 notes reviewed (95% confidence interval 66% to 90%). We found 178 entries, a mean of 3.9 per patient. Of the 36 notes in which the expression appeared, the first entry was made a median of two days after the date of admission (interquartile range 1-3 days). The mean age of patients described as “stable” was 72 years (standard deviation 14 years).

A mean of 3.9 nursing observations were charted in the 24 hours before each entry (standard deviation 1.4, interquartile range 3-4); we were able to locate these data for the relevant period in 159 of the 178 entries. Figure 1 summarises the observations recorded across all the 24 hour periods. Observations in the 24 hours preceding an entry included at least one abnormality in 71% of cases and a persistent abnormality in 19% (table 1). The most frequently occurring abnormalities were tachypnoea and hypotension. For 42% of entries, an abnormality was present in the nursing observations immediately preceding an entry, with tachypnoea featuring in a third.

Figure 2 shows the range of values for systolic blood pressure and heart rate in cases with at least two nursing observations recorded over 24 hours preceding an entry. Table 2 summarises the ranges for all observations. Owing to the difficulty in obtaining data for controls matched for age, sex, and pathology, we could not quantitatively compare our group with a reference population. Although the mean ranges of observations were similar to published data for diurnal variation,<sup>4 5 6</sup> greater than normal variability in our data was also designated as “stable” (for

example, a swing of 80 mm Hg in systolic blood pressure). The grade of either the senior clinician or author of an entry was not documented or was illegible in 20 entries (table 3).

## Discussion

We have found that doctors of all non-consultant grades frequently used the expression “obs stable” in the inpatient progress notes, and in the notes of almost three quarters of cases after a 24 hour period which included abnormal observations. A persistent abnormality was observed for almost a fifth of cases, and an abnormality was observed immediately before two fifths of entries were made. Tachypnoea and hypotension were the most frequently occurring abnormalities. For a few cases, we found that the range of observations over a 24 hour period that were designated as “stable” exceeded normal values of diurnal variation in healthy individuals. Our combined findings suggest that the expression “obs stable” does not reliably denote normal values or variation in observations within strictly physiological limits.

### Limitations

Our study had several limitations. Firstly, selection of our small sample was not entirely random and the sample might have been unrepresentative of the patient population; thus our findings could have been unduly influenced by the practice of one or more doctors, teams, or hospital wards. Secondly, our retrospective design did not include a comparison with entries not labelled “stable,” which could have provided more insight into the decision making processes behind the expression’s use. However, a doctor’s decision to write “obs stable” is probably a function not only of the observations, but also of their assessment of the patient and the time available for documentation.

Thirdly, our characterisation of abnormalities observed during the 24 hour periods preceding each entry was limited; however, what constitutes normal diurnal variation in hospital inpatients is difficult to establish. Fourthly, the length of observation period (that is, 24 hours) was an arbitrary choice. Without any published studies, we had thought it reasonable to assume that during a morning ward round, when many entries in the notes are made, the previous day’s observations would be the minimum data considered. Furthermore, our findings do not ascertain exactly what doctors are referring to when they write “obs.”

### Possible explanations for the use of “obs stable” in nursing observations

#### *Lack of importance given to documentation*

Despite the importance of medical records for good clinical care,<sup>7</sup> doctors’ written entries in case notes have frequently been criticised for their illegibility,<sup>8 9</sup> ambiguity,<sup>3</sup> and misuse of abbreviations.<sup>10 11</sup> On a ward round, clinicians might not have enough time to write observations in full, and the situation of senior clinicians rapidly assessing patients and leaving junior staff with little time to record the notes is not uncommon. The expression “obs stable” could be a convenient alternative to transcribing the observations in full when time is limited.

#### *Notes intended to be less committal*

Medical notes are used increasingly to assess professional competence, and could form the basis of a clinician’s defence if their actions are ever scrutinised.<sup>12</sup> The expression “obs stable”

might be regarded as less categorical and therefore preferable to alternatives such as “obs normal” or “obs unremarkable.”

### Observation chart design

The design of nursing observation charts could affect how doctors read them.<sup>13 14</sup> Tachypnoea, a common indicator of poor health, might have been described as “stable” in our study so frequently because of the relative lack of graphical emphasis given to respiratory rates on the observation charts.

### The patient seems well

Doctors might form the general impression that a patient is well and hence, despite observations showing one or more anomalies, feel justified in describing a patient as “stable” because of clinical correlation.

### Clinical implications

How the injudicious use of “obs stable” affects clinical care is unclear and unstudied. Although ambiguity of the phrase might not result in any serious harm, it could convey a false impression of wellness to another clinician reviewing the progress notes (and subsequently the patient). This misunderstanding might, in turn, unduly influence their impression and reduce the clinical rigour being applied. To avoid the situation, doctors should stop using the phrase altogether and write the observations in full, or qualify it by adding “for the last X hours” or “last abnormal observation was X [observation] at Y [time].”

### Conclusions

The meaning of “obs stable” is ambiguous and does not reliably indicate normality. Our findings should be considered preliminary, but nevertheless we hope to at least provoke discussion. Further studies should establish whether the phrase is associated with the time allocated to documentation during ward rounds.

Scrimping scribes of the ward rounds—and your seniors—take note.

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**What is already known on this topic**

The expression "obs stable" is frequently used in inpatient hospital notes, but with no professional consensus on its meaning or applicability

**What this study adds**

The exact reasoning behind the use of "obs stable" in notes remains unclear, and further studies should determine whether this ambiguity directly affects patient care

Doctors should avoid using the expression altogether, or clarify it with additional information

## Tables

**Table 1** | Frequency of abnormalities recorded in the nursing observations preceding entries containing "obs stable" or "observations stable"

Abnormality	Entries (n, %) with abnormality recorded		
	In at least one observation in preceding 24 hours	In every observation in preceding 24 hours	In observations immediately preceding an entry
Hypotension (systolic blood pressure <100 mm Hg)	33 (21)	6 (4)	10 (6)
Tachycardia (heart rate >100 beats/min)	21 (13)	5 (3)	12 (8)
Pyrexia (temperature $\geq 38^{\circ}\text{C}$ )	4 (3)	0	1 (1)
Tachypnoea (respiratory rate $\geq 20$ breaths/min)	88 (55)	26 (16)	51 (33)
Oxygen desaturation (<95%)	26 (16)	4 (3)	11 (7)
Any abnormality	113 (71)	31 (19)	67 (42)

Data based on 159 entries, after exclusion of 18 entries with missing observation data. Criteria for abnormality (in brackets) are based on hospitals' early warning systems.<sup>15</sup>

**Table 2| Ranges of observation values recorded during the 24 hours preceding each entry containing “obs stable” or “observations stable”**

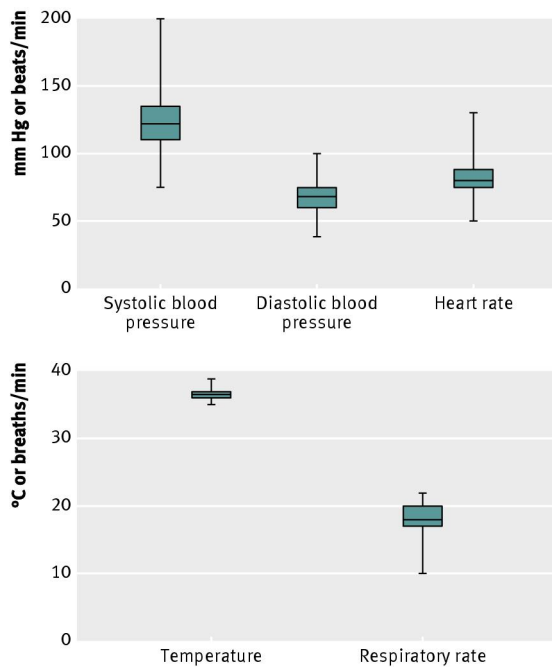
	Range of observation value	
	Maximum	Mean (standard deviation)
Systolic blood pressure (mm Hg)	80	23 (15)
Heart rate (beat/min)	40	13 (8.4)
Temperature (°C)	3.1	0.75 (0.51)
Respiratory rate (breath/min)	12	2.4 (2.3)
Oxygen saturation	10	2.4 (1.9)

Data based on 153 entries with relevant data. Ranges were calculated as difference between maximum and minimum values during the 24 hours preceding each entry in which at least two observations were recorded.

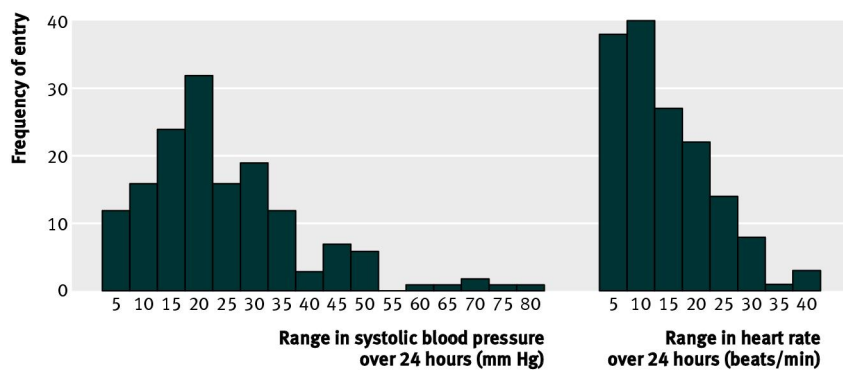
**Table 3| Grades of senior clinicians and authors recorded in 178 entries containing “obs stable” or “observations stable.” Data are number of entries unless stated otherwise**

Grade of senior clinician	Grade of author					Total (n, %)
	Specialist registrar or specialist trainee year 3 and above	Core training year 1 or 2	Foundation year 1 or 2	Medical student year	Missing grade or illegible handwriting	
Consultant	19	31	23	2	1	76 (43)
Specialist registrar or specialist trainee year 3 and above	7	24	25	0	7	63 (35)
Core training year 1 or 2	0	13	9	0	4	26 (15)
Foundation year 1 or 2	0	0	5	0	0	5 (3)
Missing grade or illegible handwriting	2	0	4	0	2	8 (4)
Total (n, %)	28 (15)	68 (38)	66 (37)	2 (1)	14 (8)	178 (100)

## Figures



**Fig 1** Boxplot of blood pressure, heart rate, temperature, and respiratory rate in the 619 nursing observations recorded in all the 24 hour periods preceding entries. Data are median (interquartile range and range)



**Fig 2** Frequency distribution histogram showing range of values for systolic blood pressure and heart rate observed during 24 hours preceding an entry (based on 153 entries with relevant information)