

Can we keep the time on time? A survey of time keeping devices in a labour ward with synchronised digital wall clocks.

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Introduction

Synchronised clocks are strongly recommended within obstetric areas to enable accurate recording of events in the context of rapidly evolving situations and to comply with medicolegal requirements (1) (2). We reviewed the accuracy of time displays across multiple devices on our labour ward and obstetric theatres to evaluate the impact of introducing synchronised digital wall clocks.

Methods

Displayed device times within our ten labour rooms, three obstetric theatres, a two-bedded high dependency unit, and a four-bedded recovery suite were recorded. Devices included synchronised digital wall clocks, analogue wall clocks, combined CTG and observation monitors, larger CTG trace display screens, observation monitors, computers, anaesthetic monitors, and ventilator screens. Timings were compared to the second against a reference smartphone with a network synchronised time. Apart from synchronised clocks, a device time was considered accurate with a time difference within 30 seconds.

Results

All 14 digital wall clocks were synchronised with no time discrepancy. 38% (3/8) of combined CTG and observation monitors were accurate. Interestingly despite receiving input from these, the larger CTG trace screens were 100% accurate. 83% (5/6) of standalone observation machines were accurate. The largest time discrepancies were noted in theatre, with inaccurate time recorded on all of the analogue clocks, anaesthetic machine obs displays, and anaesthetic ventilator displays.

Discussion

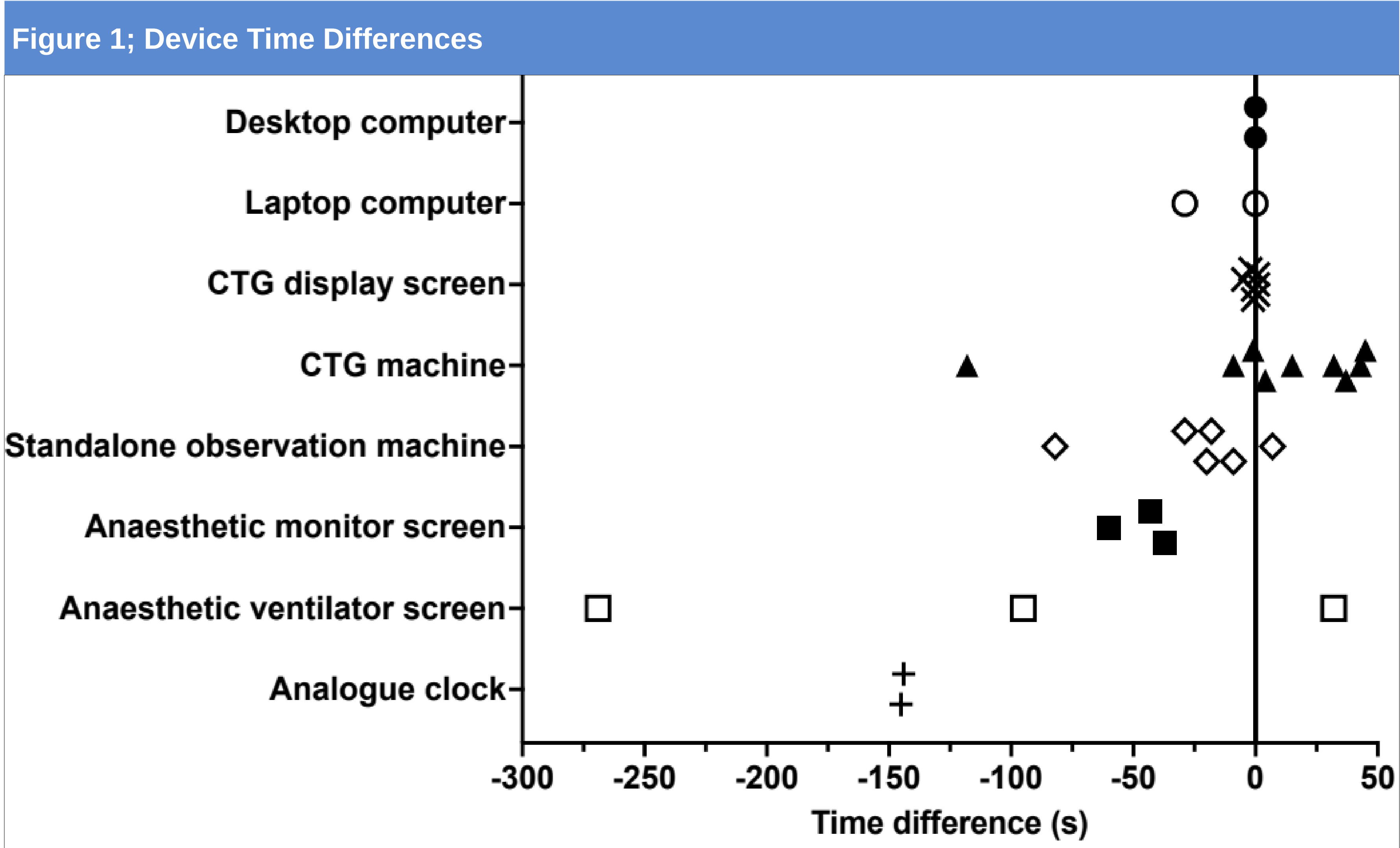
Availability of synchronised wall clocks means that all obstetric areas in our unit have an accurate time display available. However It is concerning to note that devices with the most inaccurate times were located in the operating theatre area. To ensure consistency of documentation amongst members of the obstetric MDT, we would recommend that a single synchronised source of time should be used.

References:

1. Chapter 9: Guidelines for the Provision of Anaesthesia Services for an Obstetric Population 2023 | The Royal College of Anaesthetists [Internet]. [cited 2023 Oct 4]. Available from: <https://rcoa.ac.uk/gpas/chapter-9>

2. Abayasinghe C, Poole T. P.163 A survey of time discrepancies in clocks and medical devices. Int J Obstet Anesth. 2022 May;50:86.

Table 1: Devices displaying an accurate time		
Device type	Accurate Devices (%)	Median time difference (s)
Digital wall clock	14 of 14 (100%)	0
Desktop computer	2 of 2 (100%)	0
Laptop computer	1 of 2 (50%)	15
CTG display screen	8 of 8 (100%)	1
CTG machine*	3 of 8 (38%)	35
Obs machine	5 of 6 (83%)	19
Anaesthetic monitor	0 of 3 (0%)	43
Ventilator screen	0 of 3 (0%)	95
Analogue wall clock	0 of 2 (0%)	145



Standard setting
The maximum time difference allowed for a device to be considered accurate:

- 0 min for digital wall clock (displays to the nearest minute)
- 30 s for all other devices

- Accurate sources of time:**

 - Synchronised digital wall clocks
 - Desktop computers
 - CTG display screens
 - Standalone observation machines
- Inaccurate sources of time:**

 - CTG machines
 - Anaesthetic ventilator screens
 - Anaesthetic monitor screens
 - Analogue wall clocks