Quest Diagnostics

TRAINING UPDATE

Lab Location:	All	**Date Distributed:**	8/23/12
Department:	QA, Tech specialist	**Due Date:**	8/31/12

DESCRIPTION OF PROCEDURE REVISION

Name of procedure:
Timer Accuracy Check GEC / SGAH / WAH.QA03 v002
Description of change(s):
Section 5: revise frequency to annually

Document your compliance with this training update by taking the quiz in the MTS system.

Approved draft for training all sites (version 002)

Non-Technical SOP

Title	**Timer Accuracy Check**	
Prepared by	Leslie Barrett	Date: 3/12/2009
Owner	Cynthia Bowman-Gholston	Date: 3/12/2009

Laboratory Approval		
Print Name and Title	**Signature**	**Date**
Refer to the electronic signature page for approval and approval dates.		
Local Issue Date:	Local Effective Date:	

12 month (or new) management review and approval: Signature acknowledges SOP version remains in effect with NO revisions.		
Print Name	**Signature**	**Date**

Form revised 3/31/00

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1. PURPOSE

This document sets forth the procedure for checking the accuracy of mechanical timers.

2. SCOPE

This procedure applies to all departments in which mechanical timers are used. Electronic timers are exempt from this procedure.

3. RESPONSIBILITY

The Supervisor is responsible for ensuring compliance with this process and periodic review of records as specified.

4. DEFINITIONS

Electronic Timer: microprocessor or quartz controlled timers that have no obvious moving parts. (Button switches and LED displays are not considered to be moving parts.)

Mechanical Timer: timers with moving parts that can gradually wear and affect timing accuracy. Moving parts include: electric motors, spring mechanisms, gears, shafts or spindles.

5. PROCEDURE

A. Provide Standard Stopwatch
   1. Define one stopwatch to be the standard timer.
   2. Call a recognized time keeping organization. For example, the U.S. Naval Observatory master clock (202-762-1069 or 719-567-6742) from where the time is announced in increments.
   3. Begin the stopwatch and monitor the time for one (1) minute.

4. If the stopwatch is 100% accurate to the standard, use this stopwatch to check other mechanical timers.
5. If it fails, discard the stopwatch and obtain a new one.
6. Document this stopwatch as being the standard.

B. Label each mechanical timer with a unique identifier.

C. Testing
1. Test all other mechanical timers in the department using the standard stopwatch.
2. Test the timer for the shortest and longest intervals for which the timer is commonly used. (For example, if the timer is used to measure time intervals of 1 minute, 15 minutes and 1 hour, use 1 minute and 1 hour as the test time intervals).
3. Simultaneously begin the timer being tested and the standard stopwatch.
4. Simultaneously stop the timer and the standard stopwatch when the test interval is reached.
5. Calculate the percentage difference between the timer being tested and the standard stopwatch by dividing the time difference by the test time interval x 100. Round to the closest tenth.

- Example: $\frac{1 \text{ Second}}{60 \text{ Seconds}} = .0166 \times 100 = 1.7\%$

D. Documentation
1. Document as follows (Appendix A or an equivalent form should be used):
   - Date
   - Tech initials
   - Timer ID
   - Test timer reading
   - Standard stopwatch reading
   - % Difference
   - Interpretation
2. Document the mechanical timer as follows:
   - Date
   - Tech initials
   - Timer ID
3. Documentation must include evidence of supervisory review

E. Acceptable Results.
All timers must agree within 5% of the standard stopwatch unless more stringent requirements are specific in the test Standard Operating Procedure.

F. Corrective Action.
If the difference between the timer being tested and the standard stopwatch is beyond acceptable limit, take the timer out of service and repair or replace it.

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G. Frequency
1. A standard stopwatch must be calibrated at least annually.
2. All mechanical timers must be checked for accuracy when first put into use, annually, and after any repair unless defined more frequently in departmental procedures.

Note: Electronic or digital timers must be calibrated according to manufacturer directions.

6. RELATED DOCUMENTS

None

7. REFERENCES

Procedure for Timer Accuracy Check, Quality Assurance Best Practice Team, Quest Diagnostics, 02/09/04.

8. REVISION HISTORY

Version	Date	Reason for Revision	Revised By	Approved By
		Supersedes SOP C043.001		
000	5/16/11	Section 5: update timekeeping phone numbers Section 9: add stopwatch documentation to log	L Barrett	C Bowman
001	7/25/12	Section 5: revise frequency to annually	L Barrett	C Bowman

9. ADDENDA AND APPENDICES

Timer Calibration Record (see Attachment Tab of Infocard)

Form revised 3/31/00