

## **Fluoroscopy Logbook and Benchmark Guidance (OAR 333-106-205)**

### **Fluoroscopy Logbook**

Facilities that utilize any type of fluoroscopy (table, c-arm, mini c-arm, or cath lab) must maintain an accessible logbook (electronic version is acceptable). **The logbook will be reviewed during your facility's x-ray inspection.** The log must include the following information:

- patient name
- type of examination
- date of the examination
- fluoroscopist's name
- fluoroscopic room in which the examination was done
- total cumulative fluoroscopic on-time

### **Benchmarks**

Each facility must have a written policy that includes the established cumulative fluoroscopic on-time benchmarks for **at least two** of the most common types of fluoroscopic examinations performed at the facility's site **in each** of the following categories (if applicable):

- Routine procedures performed on adults.
- Routine procedures performed on children.
- Orthopedic procedures performed in surgery.
- Urologic procedures performed in surgery.
- Angiographic procedures
- Interventional cardiac studies

If your facility does not do more than one exam in any of the above categories, you will only be required to do one benchmark in that category. Your facility may also choose to benchmark more than 2 exams in any category.

### **Tips for Determining Benchmark Times**

A fluoroscopy benchmark is an amount of time set by the facility for a specific procedure. This benchmark is used as a standard reference versus other fluoroscopy times of the same procedure. Outlier times should be investigated to determine difficulty in case(s) or possible corrective action(s). The benchmark times should be reviewed and approved by the radiation safety committee, radiologist, or a medical physicist. Benchmarks will be different for different procedures.

Setting a blanket time of 5 minutes for all exams does not comply with the intent of the rule nor does using the average time.

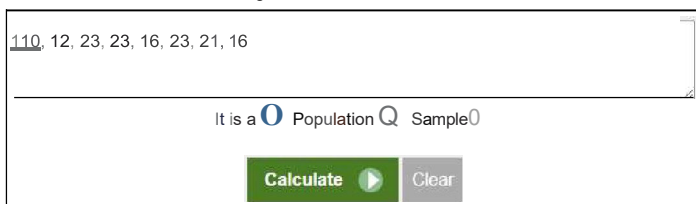
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Benchmarks can be calculated by using two standard deviations above the fluoroscopy average time.

- For example: Go to <https://www.calculator.net/standard-deviation-calculator.html>
- Type in your fluoroscopy times and click calculate

### Standard Deviation Calculator

Please provide numbers separated by commas to calculate the standard deviation, variance, mean, sum, and margin of error.



- Your results will show the following:

## Standard Deviation Calculator

### Result

Standard.Deviation, **a: 4.8989794855664**

Count; N: 8  
Sum;  $\sum X$ : 144  
Mean,  $\mu$ : 18  
Variance,  $\sigma^2$ : 24

- So, using the data above, 1 standard deviation is 4.90 (rounded up), 2 standard deviation is 9.80
  - $9.80 + \text{the sum (mean) } 18 = 27.8$
  - 27.8 would be the benchmark

## Annual Review

Each facility must develop and perform periodic (not to exceed 12-month intervals) quality assurance studies to determine the status of each individual fluoroscopist's cumulative on-time in relation to the fluoroscopic benchmarks established for individual fluoroscopic examinations (see sample below).

The Radiation Safety Committee (RSC), supervising radiologist, or health physicist must review and sign the results of the cumulative fluoroscopic on-time Quality Assurance Study. **The signed review must be available during your inspection by the Authority.** If it's been two years since your last inspection, two reviews must be available.

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### Corrective Action

Appropriate action must be taken when the established benchmarks are consistently exceeded. Corrective action must be documented regarding individuals who have exceeded any of the benchmarks established by the facility more than 10% of the total times the individual performed that procedure during the study period.

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Corrective actions, at a minimum, must include notification of the individual and a recommendation that the individual undergo additional coaching, training, etc. in the safe use of fluoroscopic equipment to assist them in reducing their cumulative fluoroscopic on-times. **Documentation of any corrective actions taken must be available during your inspection by the Authority.**

#### Benchmark Review Example:

| 2.0 UGI       |            |      |       |  |
|---------------|------------|------|-------|--|
| Fluoroscopist | # of Exams | aver | %over | Corrective Action  |
| A             | 100        | 1    | 1%    | No   |
| B             | 200        | 150  | 75%   | RSO spoke with Physician; the Lead Radiologist will work with individual to lower time.  |
| C             | 1          | 0    | 0     | In/a   |
| D             | 50         | 25   | 50%   | RSO reviewed times with Lead Radiologist/Radiology Director, and determined benchmark was only exceeded by 1-2 seconds. Individual notified. No other action taken at this time. Will continue to monitor. . |
| E             | 1          | 1    | 100%  | RSO reviewed the exam time and due to low number of exams, the statistics are poor. No action taken at this time. Will continue to monitor.  |
| F             | 0          | 0    | 0     | n/a  |

#### Written Policy

The facility must have a written policy outlining the fluoro on-time benchmarks, review process, and what corrective actions that will be taken. **This policy must be available during your inspection by the Authority.**

Current Oregon Administrative Rules (OARs) and documents can be found on our website:

[www.healthoregon.org/xray](http://www.healthoregon.org/xray)

If you have any questions, please contact your inspector.