

2019 GXMO Report for Ohio Foot & Ankle Medical Association

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What is a General X-ray Machine Operator (GXMO)?

- **General X-ray Machine Operator (GXMO) or Limited Scope Operator (LSO) defined by Ohio Revised Code circa 1995**
- **Defined as an individual, other than a licensed practitioner or radiographer, who performs standard, diagnostic radiologic procedures**

General X-ray Machine Operators – What They Can, and Can't Do

- **Perform standard, diagnostic radiologic procedures**
- **Perform radiologic procedures limited to specific body sites**
- **Do not, to any significant degree, determine the site or dosage of radiation to which a patient is exposed**
- **Work under direct supervision of a licensed practitioner**

Performance on GXMO Licensing Exams

- **Initially (1990s) examination administered through Cleveland Clinic (for the Ohio Dept. of Health)**
- **Expectation that GXMO acquire knowledge & skills commensurate with radiographer/rad. technologist**
- **Educators not involved in process**
- **No syllabus; chapter by chapter outline of Christensen's Diagnostic Radiologic Physics textbook**
- **Closed process – no exam item & metric review**
- ***Historically abysmal exam results***

Changes Leading to the Current Exam

- **Discussions and collaborative efforts through the ODH Radiation Generating Equipment Committee (REC) resulted in a substantial revision the GXMO rules**
- **Competency-based, part-specific clinical exam added**
- **Open process established for syllabus development and exam review, with involvement of both content experts and educators**

Changes Leading to the Current Exam

- ODH adopted exam committee review process
- Entire question pool reviewed on multiple occasions with most recent contract
- **Poorly** written/poorly performing questions rewritten or deleted
- Number of questions in each subsection equalized to minimize content inequities
- To the satisfaction of all content expert reviewers, the entire ODH syllabus revised and ***simplified; physics de-emphasized***

GXMO Exam – Educator Considerations

- **Majority of applicants effectively have little to no background in the sciences**
- **Variable levels of education; many applicants do not have college level education**
- **Considerable number of applicants are poor test takers/have poor test taking skills**
- **An indeterminant number of applicants may have learning deficiencies**

What if the expectation is that you pass a licensure exam in celestial or quantum mechanics after attending a weekend seminar, which also gives you a book to read?

Even though you possess a science background, it is probably insufficient in order to succeed in this educational setting

It is not far-fetched to suggest that this is analogous to expectations of high school graduate level GXMO exam performance

From an educator's perspective, an expectation of high pass rates (1st time and beyond) for a layperson taking the GXMO Licensing exam is simply unrealistic

Reasonable Expectations

- Given that students learn at different rates, it is reasonable to expect a “layperson” to require more time
- Given that *active* learning techniques (with formative assessments) produce significant improvements in learning/retention outcomes, weekend seminar/didactic instruction formats *predictably associated with poorer results*

What are the Alternatives?

- **Legislative efforts to change the GXMO statute (good luck trying!)**
- **Administer the exam through a different entity (with expiration of current contract)**
 - **Contracts are award via competitive bidding process through the ODH Bureau of Radiation Safety (ODH does not administer the exam)**
 - **Only 2 entities bid for the current exam contract, i.e. through Akron General Hospital and ARRT (Contract awarded to Akron)**

What About ARRT Limited Scope Exam?

- American Registry of Radiologic Technologists (ARRT)**
- Contractually administers exams designed to test knowledge & cognitive skills typically required of operators of radiographic equipment used to radiograph selected anatomic regions**
- Philosophical underpinnings -**

Avowed ARRT Philosophy:

“An individual licensed in limited scope radiography possess the same knowledge and cognitive skill, in his or her specific area of radiography, as radiographers”

The Bottom Line:

ARRT Exam perceived to be
a last resort because:

a) it is considerably more
difficult, and b) ODH loses
all control of exam content,
oversight, and scoring