Appropriately Assessing X-Ray Screening Competency: Challenges of Today and the Future

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Overview

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- Technological Progress
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- Determinants of Screener Performance
- The Purpose of Certification Tests
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Introduction

› Security is a basic need.
› Sociotechnical systems enable it:
  ▪ Human
  ▪ Technology
  ▪ Organization
› Progress brings challenges and opportunities.
Technological Progress
Technological Progress (Continued)

Level of Automation

The Purpose of Certification Tests
Image Interpretation Competency

- Image-based factors
- Knowledge-based factors

Stimulus representation

Encoding

Matching (Similarity)

Decision

Response

Visual memory representation

Response bias

Designing a Certification Test

1. Determine what task has to be accomplished.
2. Ensure quality and fairness (reliability, validity, standardization).
3. Define appropriate pass marks (pilot study).

Designing a Certification Process: Best Practices

› Use computer-based tests.
› Harmonize the certification process.
› Periodically review the test content.
› Train the competencies you test.

**Diagram:**
- **Personnel Selection**
- **Initial Training**
- **Initial Certification**
- **Recurrent Training**
- **Recurrent Certification**
Take Home Message

- Humans are still crucial in aviation security.
- Progress and automation bring challenges and opportunities.
- Science and application must go hand in hand to tackle them.
- Performance assessment should be viewed from a system perspective.
Thank you for your attention