

JOURNAL  
OF  
CLINICAL  
AND  
HEALTH SCIENCES

JCHS

SUPPLEMENTARY ISSUE

MARCH 2026  
VOLUME 11 ISSUE 1 (SUPPLEMENTARY)



Fakulti  
Sains Kesihatan



EMERGING TRENDS  
IN MEDICAL IMAGING:  
FROM PATIENTS TO PIXELS  
SYMPOSIUM

Official Journal of  
Faculty of Medicine  
Universiti Teknologi  
MARA



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eISSN-0127-984X

## **ETU013**

### **Comparative Analysis of Abdominal Image Information Using Physical Grid and Virtual Grid**

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**Introduction:** Abdominal imaging requires a high exposure factor due to its thickness, causing scattered radiation that can degrade radiographic image quality. The use of grids is essential to enhance image clarity. Virtual grid, which integrate scattered and primary radiation, improve image quality by reducing scatter and increasing the proportion of primary radiation captured, unlike physical grid that introduce noise. This study aims to compare abdominal image information quality between physical and virtual grid usage. **Methods:** A quantitative experimental research design was employed, conducted between September 2024 and April 2025. Collecting data through a structured questionnaire, validated by one radiology specialist, and completed by three radiology specialists with a minimum of ten years of clinical experience. Statistical analysis was performed using SPSS software, employing the Wilcoxon test. **Results:** Analysis obtained an Asymp. Sig. (2-tailed) value of 0.034, which is below the significance threshold (p-value) of 0.05. Thus, the alternative hypothesis ( $H_1$ ) is accepted, indicating a statistically significant difference in image information between abdominal radiographs obtained using physical and virtual grids. Virtual grid can enhance anatomy visualization better than physical grid. **Conclusions:** Abdominal images show differences in information when utilizing physical grids compared to virtual grids, with virtual grids enhancing anatomy visualization, making them preferred over physical grids.

**Keywords:** image information, abdomen, physical grid, virtual grid