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Radiographer Preliminary Clinical Evaluation: A Safe Approach to Reduce Waiting Times in Accident & Emergency?

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Introduction:
The Francis Report (2013) highlighted the need for waiting times within A&E Departments to be reduced.
The SCoR (2013) policy & practice guidance states that radiographers should be able to provide reliable preliminary clinical evaluation (PCE) which, even in the absence of an official report, could potentially improve patient triage times.

Method:
An retrospective audit was devised to;
1) assess waiting times for A&E patients.
2) assess radiographer image interpretation performance
   The research question is could waiting times be reduced if radiographer PCE is acted upon?

Results:
From initiation of the request (N=67), patient waiting times for x-ray ranged between zero and 1 hour; mean 11.5 minutes. Discharge delay ranged from zero to 4 hours; mean 1.02 hours.

Mean image interpretation accuracy was 91%. A good level of agreement (Kappa 0.729) was demonstrated between the PCE and the formal report.

Analysis by specific body part highlights differences in image interpretation performance.

<table>
<thead>
<tr>
<th>Body Part</th>
<th>Accuracy</th>
<th>Sensitivity</th>
<th>Specificity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ankle</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Elbow</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Finger</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Foot</td>
<td>83%</td>
<td>50%</td>
<td>83%</td>
</tr>
<tr>
<td>Hand</td>
<td>94%</td>
<td>83%</td>
<td>100%</td>
</tr>
<tr>
<td>Shoulder</td>
<td>83%</td>
<td>100%</td>
<td>83%</td>
</tr>
<tr>
<td>Thumb</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Tib/Fib</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Toe</td>
<td>67%</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>Wrist</td>
<td>88%</td>
<td>75%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Foot, toes, hand and wrist were the greatest sources of error.

Conclusion:
Waiting times could potentially be reduced if the radiographer PCE is accurate, as is the expectation of hot reports. This in turn could relieve the pressure from the A&E Department and improve patient experience. Radiographers unable to provide reliably accurate abnormality detection should arguably not be performing PCE.

Image interpretation performance should be regularly assessed using Radbench (Wright.C, 2013) as part of a quality process, highlighting areas for improvement and ensuring a high standard is achieved and maintained. Supplementary ad hoc on-site audits can be used to confirm performance.

References: