Radiation Doses from Computed Tomography Examinations in Hospital Authority – Survey Results for the period 2015 - 2018

Working Group on Radiation Safety and Monitoring in Radiology

HA Convention 2019
Introduction

• CT exams are important for patient clinical management, but the increasing number of scans and the relatively high radiation doses in CT exams contribute a substantial source of radiation exposure for populations.

• Parameters monitored for each exam:
  – CTDI_{vol}
  – DLP
Objectives

• To perform dose surveys on 4 common CT exams in HA and compare them with the UK DRLs
• To establish DRLs for the 4 common CT exams in HA
Methodology

• Surveys conducted for head, chest, KUB, abdomen & pelvis CT exams in HA hospitals
• One CT protocol compared each time
• Surveys on the same CT protocol conducted twice with 6 months apart to monitor any improvement on dose reduction
• DRLs (3\textsuperscript{rd} quartile of data collected for each exam) in HA compared with the UK DRLs
Results of Survey and Conclusion

- In the head, chest and KUB CT exams, dose reduction in the 2\textsuperscript{nd} surveys were noted. For the abdomen & pelvis CT exams, the results of both surveys were very close.

- The DRLs for the 4 CT exams in HA are comparable with those in the UK survey.

<table>
<thead>
<tr>
<th></th>
<th>Head</th>
<th>Chest</th>
<th>KUB</th>
<th>Abdomen &amp; Pelvis</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTDI\textsubscript{vol} (mGy)</td>
<td>65</td>
<td>12.4</td>
<td>15.6</td>
<td>15.5</td>
</tr>
<tr>
<td>DLP (mGy.cm)</td>
<td>1030</td>
<td>799</td>
<td>548</td>
<td>683</td>
</tr>
</tbody>
</table>