Three Years of Digital Pathology at Granada University Hospitals: Our experience

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Granada University Hospitals, Spain
Granada, Spain – Please come and visit!

Circa 1 Million inhabitants (2014)
1948 hospital beds
64,000 specimens
6,500 Molecular biology tests (NGS, PCR, FISH...)

Central Pathology Lab, Granada:
- Histology specimens: 50,000
- Cytology specimens: 50,000
- Post mortems: 100

Baza General Hospital
- Histology specimens: 4,000
- Cytology specimens: 5,000
- Post mortems: Centralized

Motril General Hospital
- Histology specimens: 10,000
- Cytology specimens: 8,000
- Post mortems: Centralized
Meet our team

**Granada Campus Hospital**
- 17 Pathologists
- 8 Residents
- 26 Technicians
- 2 Porters
- 4 Clerical

**Motril Hospital**
- 2 Pathologists
- 3 Technicians

**Baza Hospital**
- 1 Pathologists
- 3 Technicians
- 1 Clerical

**Fully Digital for Primary Histopathology Diagnosis**
**Since September 2016**
32 Slides per hour at 40x
Online digital archive
Integrated with LIS
Error rate < 1/1000

The heartbeat of our digital pathology system
### Survey Results: Impact of going Digital in Granada

**“After implementing Digital, my efficiency has...”**

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>96%</td>
<td>Increased efficiency after moving to a digital workflow</td>
</tr>
<tr>
<td>20%</td>
<td>Self-reported increased in efficiency</td>
</tr>
</tbody>
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**“After implementing Digital Pathology, the quality of my diagnosis is...”**

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<tr>
<td>100%</td>
<td>Same or better than with a microscope (78% better, 22% same)</td>
</tr>
<tr>
<td>78%</td>
<td>Working digitally helps prevent errors in dealing with patient data due to the integration with our LIS</td>
</tr>
</tbody>
</table>

**“In essence, we are doing more with less pathologists, at the same cost or lower than before”**

**100%**

Would rather continue working digitally than return to the microscope

Adoption universal, amongst all pathologists and all sample types
Efficiency Analysis
# Efficiency Improvements at Granada University Hospitals

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Pathologists</th>
<th>Histology Samples</th>
<th>Caseload Δ (year prior)</th>
<th>Histology cases/Pathologist</th>
<th>Cases/pathologist Δ% (versus 2015)</th>
<th>Total RVU</th>
<th>RVU per Pathologist</th>
<th>RVU/pathologist Δ% (versus 2015)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>24</td>
<td>53,500</td>
<td></td>
<td>2,229</td>
<td></td>
<td>1,375,544</td>
<td>57,314</td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td>22</td>
<td>56,500</td>
<td>6%</td>
<td>2,568</td>
<td>15%</td>
<td>1,450,225</td>
<td>65,919</td>
<td>15%</td>
</tr>
<tr>
<td>2017</td>
<td>23</td>
<td>61,500</td>
<td>9%</td>
<td>2,674</td>
<td>20%</td>
<td>1,581,231</td>
<td>68,749</td>
<td>20%</td>
</tr>
<tr>
<td>2018</td>
<td>23</td>
<td>64,500</td>
<td>5%</td>
<td>2,804</td>
<td>26%</td>
<td>1,687,039</td>
<td>73,350</td>
<td>28%</td>
</tr>
</tbody>
</table>

Caseload variation of Histopathology cases at Granada University Hospitals.

- Less Pathologists (retirements) relative to 2015 staffing.
- 6-9% caseload increase on a yearly basis.
- 15-26% increased case volumes per pathologist relative to 2015 volumes.
- 15-28% increase in RVU per pathologist relative to 2015 activity.
Complete Digital Pathology for Routine Histopathology Diagnosis in a Multicenter Hospital Network

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