Objective
Intraoperative parathyroid hormone (IOPTH) monitoring can be performed either in a central laboratory, or as a point-of-care assay within the operative suite. We hypothesized that point-of-care IOPTH assessment would result in decreased reporting time for IOPTH results.

Methods
Patients underwent parathyroidectomy and intraoperative monitoring of serum PTH levels was used to confirm biochemical cure following adenoma excision. Serum samples were run in duplicate using a point-of-care PTH assay (Future Diagnostics) located within the operating room, and a laboratory-based assay (Turbo PTH). Samples were obtained at incision and at 5, 10, and 15 minute intervals following removal of parathyroid adenomas. Results reporting time was recorded and compared by non-parametric Wilcoxon Rank Sums test.

Results
Sixty six consecutive IOPTH assays showed excellent correlation between tests.

<table>
<thead>
<tr>
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<th>Baseline PTH (pg/ml)</th>
<th>Mean PTH (pg/ml)</th>
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</thead>
<tbody>
<tr>
<td>In-lab</td>
<td>217.7</td>
<td>107.1</td>
</tr>
<tr>
<td>Point-of-care</td>
<td>218</td>
<td>101.3</td>
</tr>
</tbody>
</table>

$r=0.880$ by Spearman correlation

Time for Results Reported to Surgical Team

Point-of-care IOPTH: $14.4 \pm 2.8$ min (range=11-27 min)

In-lab IOPTH: $30.7 \pm 4.5$ min (range=25-42 min), $p<0.001$ (Fig. 1).

Using point-of-care IOPTH result to designate biochemical cure and termination of the surgical procedure resulted in an average time savings of 16.6 minutes per patient (range=10-28 min) (Fig. 2).

Discussion
Point-of-care IOPTH represents an incremental improvement in the application of PTH monitoring to parathyroidectomy and should be considered by any moderate- to high-volume surgical center considering adopting IOPTH monitoring.

Conclusion
Locating the PTH assay within the operating room as a point-of-care IOPTH assay results in a significant decrease in amount of time for laboratory results to be communicated to the surgical team.