Introduction and Objectives:
The role and magnitude of the effect diabetes mellitus has on complication rates following artificial urinary sphincter placement has not been primarily studied. The purpose of our study was to evaluate the impact that diabetes has on continence and complications following AUS placement.

Methods:
A retrospective chart review analyzed the records of 134 patients undergoing AUS placement for post-prostatectomy incontinence. Fourteen of these patients had the diagnosis of diabetes mellitus. Demographics, baseline pad use, post-AUS pad use, frequency and types of complications were collected. Complications for the purpose of this study included mechanical failure, persistent or recurrent incontinence, erosion, or infection leading to reoperation. Cuff atrophy and other situations not stated here were not considered complications. Pre- and post-AUS pad use data was available for all patients included in this study. Mean values are reported, and statistical analysis was performed with the two sample T-test and Fisher’s test.

Results:
Non-diabetic patients had greater improvement in pad use after AUS compared to diabetic patients (5 pads vs 3 pads, p=0.0163, statistical power=75%). The average number of complications was higher in the diabetic group (1 vs 0.317, p=0.0007), and the percent of patients experiencing complications was higher in the diabetic group (50% vs 22.5%, p=0.0458). Of the complications examined, all occurred more frequently in diabetics, but erosion was the most increased in incidence (35% vs 6.67%, p=0.0047). Characteristics were similar between the groups, including age at first AUS (69 vs 66, p=0.1216), pre-operative daily pad use (5 vs 5, p=1), and time from radical prostatectomy to AUS (44 months vs 37 months, p=0.5215). Length of follow up was shorter for non-diabetic patients (51 months vs 76 months, p=0.0781).

Conclusions:
Diabetic patients are at increased risk of complications and lower success of AUS, but the outcomes remain a notable improvement from baseline.

Objectives:
The purpose of our study was to evaluate the impact that diabetes has on continence and complications following AUS placement.

Methods:
A retrospective chart review was performed of 134 patients who underwent initial AUS placement secondary to post-prostatectomy incontinence at our institution between 1993 and 2009. The institutional ethics review board provided approval for this study.

Inclusion criteria:
• Men who had a history of prostatectomy undergoing primary AUS placement
• Pre-operative and post-operative pad use data available

Definitions:
Bladder contractility index (BCI)= PdetQmax × SO2
Bladder outlet obstruction index (BOOI)= PdetQmax – 2Qmax

• Weak contractility: <100
• Obstruction: >40

• The purpose of our study was to evaluate the impact that diabetes has on continence and complications following AUS placement.

Results:
Table 1. Demographics of non-diabetic and diabetic men who underwent artificial urinary sphincter placement

<table>
<thead>
<tr>
<th></th>
<th>Non-diabetics, n=120</th>
<th>Diabetics, n=14</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-AUS pad use (pads per day) Mean</td>
<td>4.6</td>
<td>2.74</td>
<td>6.67</td>
</tr>
<tr>
<td>Age at 1st AUS (years)</td>
<td>69.9</td>
<td>0.636</td>
<td>66.3</td>
</tr>
<tr>
<td>Months from RRP to AUS</td>
<td>44.8</td>
<td>3.644</td>
<td>37.0</td>
</tr>
<tr>
<td>Length of follow up (months)</td>
<td>48.9</td>
<td>28.84</td>
<td>75.7</td>
</tr>
<tr>
<td>Pelvic radiotherapy (%)</td>
<td>28</td>
<td>64</td>
<td>64</td>
</tr>
</tbody>
</table>

Conclusions