Same Day Vascular Interventions in an Office or Freestanding Facility: The US Experience

Jeffrey G. Carr, MD, FACC, FSCAI
Founding and Immediate Past President-Outpatient Endovascular and Interventional Society (OEIS)
Disclosures

Jeffrey G. Carr, MD, FACC, FSCAI

I have the following potential conflicts of interest to report:

Faculty/Consulting/Speaking: Medtronic, Cardiovascular Systems Inc, Spectranetics, Avinger, Astra Zeneca, Amgen

Research: Medtronic, Cardiovascular Systems Inc, Spectranetics, Astra Zeneca, Veryan Medical, Novartis, Advanced Cardiovascular Therapies
Same Day Interventions: Office or Freestanding Facility Based

Office Interventional Suites (OIS) or Office Based Labs (OBL)

- Minimally invasive procedures done in an office or freestanding facility detached from a hospital
- Patients selected appropriately can be sent home within a few hours of procedure—same day discharge
Growth of Office Based Interventional Suites in the US

- Existence for several decades
- Same day interventions occur routinely in hospital and ASC settings due to advances in devices and pharmacology
- Marked proliferation of office based endovascular suites since 2008
- Regional variation in the US
  Individual states regulate which procedures are covered
Office-Based Interventions

• Shift of care occurred with certain payment code changes by CMS
  – 2008 Advanced outpatient and office procedure payment
  – 2011 Atherectomy codes expanded to include nonfacility (office)

• Procedure volumes are increasing in the office setting
  Medicare growth from 2006-11
  Outpatient PVI  Increased 184.7 - 228.5/100K = 43.8/100K  24%
  Office PVI  Increased 6.0 – 37.8/100K = 31.8/100K  530%
  (Jones, et. al JACC Mar 2015)

  Vascular Surgeons  41%
  Interventional Cardiologists  33%
  Interventional Radiologists  12%  (Advisory Board 2015)
Office Interventional Suite (OIS)

- Endovascular
- Coronary and Cardiac Interventions
- Interventional Radiology
- ASC/HOPD
- Varicose Veins
- Vascular Access

Angiographic Suite
Interventions Performed in Office Labs

• **PVI:**
  All Vascular beds – (Excluding carotids, cerebrovascular, AAA)
  Aortic, Mesenterics, Renals, Subclavians
  Iliofemoral, Tibials and Pedals
  CTOs and CLI pts (incl. retro pedal access/TAMI)

• **Venous**
  Chronic Iliocaval Obstruction, DVT, Filters, Pelvic Venous Reflux

• **AV Graft/Fistula**

• **Cardiac**
  Coronary PCI, EP, SVT Ablations, PPM, ICD, BiV Implants

• **Oncology**
  Coil Embolizations, Radioembolizations (Y90)
Advantages of an Office Interventional Suite (OIS)

• **Safety** - Lower morbidity Fewer comorbidities Few to no nosocomial infections

• **Satisfaction** – Preferred site for patients, doctors and staff

• **Efficiency** – No interruptions in patient flow

• **Focused Care** – Singular focus by staff and docs

• **Cost Efficient** – Reduced ancillary testing, no overnight stays
Advantages of an Office Interventional Suite (OIS)

• **Alignment** — Doctors and staff - service and product utilization

• **Access to Care** — Ease of use, smaller communities, patient compliance, limited beds in acute care hospitals

• **Dedication** — Patient experience and satisfaction

• **Continuum of Care** — Seamless encounters with patient from office eval. to definitive intervention
TCEC Lab
Safety
Coronary PCI Safe in Sites without Surgical Backup

Prevalence and Outcomes of Same-Day Discharge After Elective Percutaneous Coronary Intervention Among Older Patients

Coronary PCI Safe with Same Day Discharge
**Office-based endovascular suite is safe for most procedures**


- 6458 pts.
- Total Complication rate 0.8%
- 26/6458 transfers
- 10/6458 surgical interventions
- 0 Procedure-related Deaths
- 18 Deaths in 30d
- 99% satisfaction—would return

**Safety and Efficacy of Peripheral Vascular Procedures Performed in the Outpatient Setting**


- 500 Procedures (335 AVF, 148 PAD, 17 Misc)
- 7/500 Adverse events
- 1/500 emergent transfer
- No reported deaths
Tyler Cardiac & Endovascular Center
July 2009-December 2015

Total Cases= 6122
Total Variance Percentage: 1.6%

All Hospital Admissions within 72 hours
0.96%
n=59
Includes Emergent, Urgent, and Elective Transfers

Patient Falls
0.12%
n=6

Pseudoaneurysm & Hematoma
0.1%
n=7

Adverse Medication Reactions
0.13%
n=8

RPB/Vasc Perf
0.08%
n=8

Customer Complaints
0.07%
n=4

Infection
0.04%
n=2

Other
0.1%
n=6

Total Variance Percentage: 1.6%
## Sentinel Events and Variances

**Aggregated Group of 18 Labs**

**18,963 cases from Jan 2014-Sept 2015**

<table>
<thead>
<tr>
<th>Variance</th>
<th>2014</th>
<th>Jan.-Sept. 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sentinel Events:</strong></td>
<td>10 0.09%</td>
<td>4 0.05%</td>
</tr>
<tr>
<td>Death</td>
<td>6 0.06%</td>
<td>3 0.04%</td>
</tr>
<tr>
<td>Wrong Site</td>
<td>2 0.02%</td>
<td>1 0.01%</td>
</tr>
<tr>
<td>Loss of Limb</td>
<td>2 0.02%</td>
<td>0 0.00%</td>
</tr>
<tr>
<td>Loss of Function</td>
<td>0 0.00%</td>
<td>0 0.00%</td>
</tr>
<tr>
<td>Transfers</td>
<td>31 0.21%</td>
<td>25 0.30%</td>
</tr>
<tr>
<td>Falls</td>
<td>2 0.02%</td>
<td>3 0.04%</td>
</tr>
<tr>
<td>Infections</td>
<td>9 0.08%</td>
<td>3 0.04%</td>
</tr>
<tr>
<td><strong>All Complications</strong></td>
<td>66 0.61%</td>
<td>48 0.59%</td>
</tr>
<tr>
<td>Return to Surgery/Lab</td>
<td>13 0.03%</td>
<td>18 0.22%</td>
</tr>
<tr>
<td>Hematoma</td>
<td>27 0.25%</td>
<td>15 0.18%</td>
</tr>
<tr>
<td>MI</td>
<td>2 0.02%</td>
<td>0 0.00%</td>
</tr>
<tr>
<td>Stroke</td>
<td>1 0.01%</td>
<td>2 0.02%</td>
</tr>
<tr>
<td>Other</td>
<td>23 0.21%</td>
<td>13 0.16%</td>
</tr>
</tbody>
</table>
Safety

- Aortic Occlusion Balloon Closure Devices
- Covered Stents US-Guided Access
- Thrombectomy Catheters/Devices
- IABP/Pericardiocentesis trays
- Pressors/Lytics
- Emergency Transfer Agreements
- Policies and Procedures
- Skilled operators and staff
- Bail out drills
OUTPATIENT ENDOVASCULAR
AND INTERVENTIONAL SOCIETY
Outpatient Endovascular and Interventional Society (OEIS)

Multidisciplinary
– Interventional Cardiology
– Interventional Radiology
– Vascular Surgery
– Other qualified specialists

– Designed for collaboration and inclusivity

– Partner with other established Societies toward common educational, strategic and advocacy goals
OEIS Quality Initiatives

Safety/Accreditation
Credentialing
Outcomes Measures/Registry
Compliance
Appropriateness
Peer Review
Conclusion

• The OIS and same day discharge interventions are growing in the US and provide a patient–preferred, cost effective alternative to hospital based PV interventions

• Demonstrating safety in office setting is vital with existing and new vascular services

• Benchmarking and transparency is important
  Future likely will mandate AUC, sentinel event / variance reporting and accreditation of facilities

In the OIS/OBL, doctors, staff and patients just seem happier