

**Advanced Techniques in Neurosurgery**  
**August 17 – 19, 2023**  
**The Viticus Center - Oquendo Campus | Las Vegas, NV**

DAY 1 Thursday, August 17, 2023		
Time	Topic	Presenter(s)
7:00-7:30 am	<b>Registration</b> <i>Faculty to premeet from 7-7:30</i>	
7:30-7:40 am	<b>Welcome &amp; Introductions</b>	<i>Dr. Amanda Taylor, Dr. Fred Winger</i>
7:40-8:30 am	AO Principles of Fracture Management <ul style="list-style-type: none"> <li>• Determination of presence of fracture</li> <li>• Principles of stabilization</li> <li>• Indications for different stabilization techniques in spine</li> </ul>	<i>Dr. Sharon Kerwin</i>
8:30-9:20 am	Available Techniques for Fracture Stabilization <ul style="list-style-type: none"> <li>• Review use of selection of implant size and drilling</li> <li>• Review screws and PMMA</li> <li>• Review SOP use</li> <li>• Review polyaxial screw use</li> </ul>	<i>Dr. Sharon Kerwin</i>
9:20-9:35 am	<b>Break</b>	
9:35-10:25 am	Indications for CT Planning and 3D Printing in Spinal Stabilization and Thoracolumbar Stabilization, Screws and PMMA <ul style="list-style-type: none"> <li>• Review CT Planning software for implants</li> <li>• Review mechanisms for 3D printing</li> <li>• Understand anatomical challenges of thoracolumbar stabilization</li> <li>• Learn appropriate corridors for thoracolumbar stabilization</li> </ul>	<i>Dr. Amanda Taylor, Dr. Fred Winger</i>

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DAY 1 (continued) Thursday, August 17, 2023		
Time	Topic	Presenter(s)
10:25-11:00 am	Lateral Corpectomy and Durotomy <ul style="list-style-type: none"> <li>Recognize when these approaches might be useful</li> <li>Recognize anatomical landmarks and practical approaches</li> </ul>	<i>Dr. Nick Jeffery</i>
11:00 am – 1:00 pm	<b>Lab:</b> Laboratory Overview, Review Instrumentation, Thoracolumbar Stabilization, Lateral Corpectomy, Durotomy <ul style="list-style-type: none"> <li>Demonstrate and perform all approaches</li> <li>Identify important bony landmarks</li> <li>Utilize 3D printed jigs for implant placement</li> <li>Attempt implant placement without jigs</li> </ul>	<i>Dr. Sharon Kerwin, Dr. Nick Jeffery, Dr. Amanda Taylor, Dr. Fred Winger, Dr. William Thomas, Dr. Simon Platt</i>
1:00-1:50 pm	<b>Lunch</b>	
1:50-2:20 pm	Lumbosacral Decompression and Stabilization with Polyaxial Implant Systems <ul style="list-style-type: none"> <li>Recognize indications for stabilization</li> <li>Recognize anatomical landmarks and practicalities</li> <li>Review operation of polyaxial systems</li> <li>Compare alternative procedures at the lumbosacral junction</li> </ul>	<i>Dr. Fred Winger</i>
2:20-2:50 pm	L7 Foraminotomy <ul style="list-style-type: none"> <li>Recognize indications for this procedure</li> <li>Learn challenges and advantages of procedure</li> </ul>	<i>Dr. Nick Jeffery</i>

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DAY 1 (continued) Thursday, August 17, 2023		
Time	Topic	Presenter(s)
2:50-5:20pm	<p><b>Lab:</b> Laboratory Overview, Review Instrumentation, LS Decompression and Stabilization; Foraminotomy; Demo</p> <ul style="list-style-type: none"> <li>• Perform approach for lumbosacral stabilization</li> <li>• Perform approach for lateral foraminotomy</li> <li>• Learn how to operate a polyaxial system</li> <li>• Perform polyaxial implantation</li> </ul>	<p><i>Dr. Sharon Kerwin, Dr. Nick Jeffery, Dr. Amanda Taylor, Dr. Fred Wininger, Dr. William Thomas, Dr. Simon Platt</i></p>
5:20-5:50 pm	<p>Review of CT Planning and Overview of Planning Software Up and Distribution of CT Study</p> <ul style="list-style-type: none"> <li>• Review case provided to planning example</li> <li>• Transform CT study into 3-dimensional images for planning</li> </ul>	<p><i>Dr. Amanda Taylor, Dr. Fred Wininger</i></p>
5:50 pm	<p><b>Welcome Reception</b> <i>Faculty to debrief first 15 minutes</i></p>	

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DAY 2 Friday, August 18, 2023		
Time	Topic	Presenter(s)
7-7:30 am	Faculty meet to prepare for Day 2	
7:30-7:45 am	Questions So Far	<i>Dr. Amanda Taylor, Dr. Fred Winger</i>
7:45-8:35 am	Craniocervical junction: Stabilization of atlantoaxial subluxation, review of concurrent abnormalities <ul style="list-style-type: none"> <li>• Demonstrate patient positioning and surgical approach to ventral aspect of the atlantoaxial joint</li> <li>• Select and apply appropriate implants for screw and PMMA stabilization</li> <li>• Review use of 3D printed models for surgical planning</li> </ul>	<i>Dr. Fred Winger</i>
8:35-9:35 am	Cervical Stabilization, Utilization of SOP, Caudal Cervical Spondylomyelopathy (CCSM) <ul style="list-style-type: none"> <li>• Review the approach to ventral cervical spine for implant fixation</li> <li>• Recognize advantages and disadvantages of SOP system</li> <li>• Discuss the use of distraction with intervertebral spacers</li> </ul>	<i>Dr. Amanda Taylor, Dr. Sharon Kerwin</i>
9:35-9:45 am	<b>Break</b>	
9:45 am – 12:15 pm	<b>Lab:</b> Laboratory Overview, Review Instrumentation, Cervical Stabilization, Atlantoaxial Stabilization, CCSM <ul style="list-style-type: none"> <li>• Practice implant placement on 3D AA models</li> <li>• Identify and utilize anatomical landmarks to guide implant placement</li> <li>• Select and place screws for ventral atlanto-axial fixation with screws and PMMA within cadaver</li> <li>• Demonstrate ventral surgical approach to the cervical region</li> <li>• Utilize SOP system to stabilize caudal cervical vertebrae</li> </ul>	<i>Dr. Sharon Kerwin, Dr. Nick Jeffery, Dr. Amanda Taylor, Dr. Fred Winger, Dr. William Thomas, Dr. Simon Platt</i>

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DAY 2 (continued) Friday, August 18, 2023		
Time	Topic	Presenter(s)
12:15-1:00 pm	<b>Lunch</b>	
1:00-1:50 pm	Dorsal Cervical Decompression and Cervical Hemilaminectomy <ul style="list-style-type: none"> <li>Review approaches for both surgeries</li> <li>Review tips for cervical hemilaminectomy previously unpublished</li> <li>Visualize landmarks for cervical hemilaminectomy</li> </ul>	<i>Dr. Amanda Taylor</i>
1:50-2:20 pm	Ventral Slot with Mag <ul style="list-style-type: none"> <li>Review advantages of magnification in ventral slots</li> <li>Review available forms of magnification</li> </ul>	<i>Dr. Fred Winger</i>
2:20-2:30 pm	<b>Break</b>	
2:30-5:00 pm	<b>Lab:</b> Laboratory Overview, Review Instrumentation, Dorsal Cervical Stabilization and Decompression, Cervical Hemilaminectomy, Ventral Slot, Optional MM/NN Biopsy <ul style="list-style-type: none"> <li>Perform approach to lateral cervical region and hemilaminectomy</li> <li>Perform dorsal cervical approach and decompression</li> <li>Perform ventral slot with aid of magnification</li> <li>Optional – perform nerve and muscle biopsy</li> </ul>	<i>Dr. Sharon Kerwin, Dr. Nick Jeffery, Dr. Amanda Taylor, Dr. Fred Winger, Dr. William Thomas, Dr. Simon Platt</i>
5-5:15 pm	Faculty Debrief	
5:30 pm	<b>Informal Cocktail Hour</b>	

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DAY 3 Saturday, August 19, 2023		
Time	Topic	Presenter(s)
7-7:30 am	Faculty meet to prepare for Day 3	
7:30-7:45 am	Questions So Far	<i>Dr. Amanda Taylor, Dr. Fred Winger</i>
7:45-8:15 am	VP Shunting <ul style="list-style-type: none"> <li>• Be familiar with VP shunt systems</li> <li>• Learn tips for surgical technique to avoid shunt failure</li> <li>• Recognize the indications for shunt placement</li> <li>• Managing common complications</li> </ul>	<i>Dr. William Thomas</i>
8:15-9:15 am	Brain Surgeries: Transfrontal, Rostrotentorial, Alternative Methods <ul style="list-style-type: none"> <li>• Assess the suitability of approaches for surgical access</li> <li>• Demonstrate appropriate patient positioning &amp; surgical approach</li> <li>• Select/apply appropriate materials for closure</li> <li>• Describe anatomic landmarks for skin incision, muscle dissection and osteotomy</li> <li>• Determine whether zygomatic osteotomy may be necessary</li> <li>• Create an appropriate post-operative monitoring and treatment plan for veterinary patients undergoing these surgeries</li> </ul>	<i>Dr. Simon Platt</i>
9:15-9:20 am	<b>Break</b>	
9:20 am – 12:00 pm	<b>Lab:</b> Laboratory Overview, Review Instrumentation, VP Shunt, Transfrontal, Rostrotentorial <ul style="list-style-type: none"> <li>• Perform VP shunt placement</li> <li>• Perform rostrotentorial and transfrontal approaches</li> <li>• Practice approach for zygomatic osteotomy</li> </ul>	<i>Dr. Sharon Kerwin, Dr. Nick Jeffery, Dr. Amanda Taylor, Dr. Fred Winger, Dr. William Thomas, Dr. Simon Platt</i>

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DAY 3 (continued) Saturday, August 19, 2023		
Time	Topic	Presenter(s)
12:00-12:45 pm	<b>Lunch</b>	
12:45-1:15 pm	Foramen Magnum Decompression with Titanium Mesh <ul style="list-style-type: none"> <li>• Review indications for foramen magnum decompression</li> <li>• Review anatomy of region</li> <li>• Learn technique for application of titanium mesh over craniectomy</li> </ul>	<i>Dr. William Thomas</i>
1:15-2:05 pm	Minimally Invasive Technique <ul style="list-style-type: none"> <li>• Learn indications for minimally invasive spinal surgery</li> <li>• Review instrumentation for minimally invasive techniques</li> <li>• Review advantages of minimally invasive techniques</li> </ul>	<i>Dr. Richard Chua</i>
2:05-2:20 pm	<b>Break</b>	
2:20-4:20 pm	<b>Lab:</b> Laboratory Overview, Review Instrumentation, Foramen Magnum Decompression, Minimally Invasive Techniques <ul style="list-style-type: none"> <li>• Perform Foramen Magnum Decompression</li> <li>• Review minimally invasive spine approaches</li> </ul>	<i>Dr. Sharon Kerwin, Dr. Nick Jeffery, Dr. Amanda Taylor, Dr. Fred Wininger, Dr. William Thomas, Dr. Simon Platt</i>
4:20 pm	<b>Closing Remarks and Course Wrap Up</b>	<i>Dr. Amanda Taylor, Dr. Fred Wininger</i>

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