Case Number:	CM14-0134515		
Date Assigned:	08/27/2014	**Date of Injury:**	03/05/2012
Decision Date:	09/26/2014	**UR Denial Date:**	07/28/2014
Priority:	Standard	**Application Received:**	08/20/2014

HOW THE IMR FINAL DETERMINATION WAS MADE

MAXIMUS Federal Services sent the complete case file to an expert reviewer. He/she has no affiliation with the employer, employee, providers or the claims administrator. The expert reviewer is Board Certified in Orthopedic Surgery and is licensed to practice in Maryland and He/she has been in active clinical practice for more than five years and is currently working at least 24 hours a week in active practice. The expert reviewer was selected based on his/her clinical experience, education, background, and expertise in the same or similar specialties that evaluate and/or treat the medical condition and disputed items/services. He/she is familiar with governing laws and regulations, including the strength of evidence hierarchy that applies to Independent Medical Review determinations.

CLINICAL CASE SUMMARY

The expert reviewer developed the following clinical case summary based on a review of the case file, including all medical records:

The patient is a 55 year old female with a 3/5/12 date of injury. She underwent left knee arthroscopic partial medial meniscectomy, thermal shrinkage of the ACL, exclusion of the medial and lateral plicae, and chondroplasty of the medial and patellofemoral compartments. DVT compression devise with sleeves places on the calves bilaterally was utilized intraoperatively.

IMR ISSUES, DECISIONS AND RATIONALES

The Final Determination was based on decisions for the disputed items/services set forth below:

DVT compression device, quantity one: Overturned

Claims Administrator guideline: The Claims Administrator did not base their decision on the MTUS. Decision based on Non-MTUS Citation Official Disability Guidelines (ODG), Treatment; Integrated Treatment/Disability Duration Guidelines, Knee and Leg Chapter, Compression Garments.

MAXIMUS guideline: The Expert Reviewer did not base their decision on the MTUS. Decision based on Non-MTUS Citation Other Medical Treatment Guideline or Medical Evidence: Efficacy of pneumatic compression stocking prophylaxis in the prevention of deep venous thrombosis and pulmonary embolism following 139 lumbar laminectomies with instrumented fusions.Epstein NE.Author informationAbstractOBJECTIVE:Low-dose heparin (LDH) regimens reduce the frequency of deep venous thrombosis (DVT) and pulmonary

embolism (PE) in spinal surgery but pose a risk of postoperative hemorrhage threatening neurologic function. Pneumatic compression stocking (CS) could provide an alternative means of mechanical prophylaxis alone against DVT and PE and would possibly avoid its hemorrhagic complications.METHODS:The efficacy of CS alone in preventing DVT and PE was evaluated in 139 patients undergoing multilevel lumbar laminectomies (average 3.8 levels) with instrumented fusions (average 1.4 levels). All patients received CS stocking prophylaxis intraoperatively and throughout the average 5-day postoperative course including following ambulation. Doppler screening for DVT was routinely performed 2 days postoperatively. Subsequent Doppler studies or computed tomography angiograms were selectively performed in symptomatic patients with potential DVT/PE.RESULTS:Four (2.8%) patients developed DVT 2-6 days postoperatively and required inferior vena cava (IVC) filters. One of the four had a positive routine screening Doppler study performed the second postoperative day. Two developed DVT the fourth postoperative day. The fourth patient developed DVT 6 days postoperatively but 3 weeks later embolized around the IVC filter. This patient, the only one to develop a PE, tested positive for Factor V Leiden mutation (hypercoagulable syndrome) and remains on long-term warfarin.CONCLUSIONS:Pneumatic compression stocking prophylaxis effectively reduced the incidence of DVT (2.8%) and PE (0.7%) in 139 patients undergoing multilevel lumbar laminectomies with instrumented fusions. These rates compared favorably with those reported in spinal series employing LDH prophylaxis. American Academy of Orthopedic surgeons: Deep Vein Thrombosis; Effects of Pneumatic Compression DevicesAgainst Venous Thrombosis-Produce flow turbulence in venous valve pockets, the main site of initiation of thrombosis4-Increase the release of endothelium-derived relaxing factor, which inhibits platelet aggregation24-Stimulate fibrinolysis by releasing mediators such as urokinase and tissue plasminogen activator from the venous endothelium25 (intermittent compression)Other Beneficial Effects4-Reduce venous congestion-Reduce compartment pressure-Reduce and concomitant pain and swellingTreatmentPneumatic compression devices are generally combined with chemical prophylaxis in the postoperative setting. Various devices exist, including the following:-Calf pumps-Foot pumps-Foot-calf pumps-Calf-thigh pumpsSome devices have a single chamber, whereas others provide a sequence of c.

Decision rationale: Medical necessity for the intraoperative use of DVT compression device is established. The American Academy of Orthopedic surgeons states that multiple studies have demonstrated efficacy of mechanical compression devices designed to reduce venous stasis are effective in reducing the rate of DVT. Due to the use of general anesthesia during the patient's left knee arthroscopic partial medial meniscectomy, thermal shrinkage of the ACL, exclusion of the medial and lateral plicae, and chondroplasty of the medial and patellofemoral compartments, and in order to reduce DVT, the request is medically necessary.

Sleeves, quantity two: Overturned

Claims Administrator guideline: The Claims Administrator did not base their decision on the MTUS. Decision based on Non-MTUS Citation Official Disability Guidelines (ODG), Treatment; Integrated Treatment/Disability Duration Guidelines, Knee and Leg Chapter, Compression Garments.

MAXIMUS guideline: The Expert Reviewer did not base their decision on the MTUS. Decision based on Non-MTUS Citation Other Medical Treatment Guideline or Medical Evidence: Efficacy of pneumatic compression stocking prophylaxis in the prevention of deep venous thrombosis and pulmonary embolism following 139 lumbar laminectomies with instrumented fusions.Epstein NE.Author informationAbstractOBJECTIVE:Low-dose heparin (LDH) regimens reduce the frequency of deep venous thrombosis (DVT) and pulmonary embolism (PE) in spinal surgery but pose a risk of postoperative hemorrhage threatening neurologic function. Pneumatic compression stocking (CS) could provide an alternative means of mechanical prophylaxis alone against DVT and PE and would possibly avoid its hemorrhagic complications.METHODS:The efficacy of CS alone in preventing DVT and PE was evaluated in 139 patients undergoing multilevel lumbar laminectomies (average 3.8 levels) with instrumented fusions (average 1.4 levels). All patients received CS stocking prophylaxis intraoperatively and throughout the average 5-day postoperative course including following ambulation. Doppler screening for DVT was routinely performed 2 days postoperatively. Subsequent Doppler studies or computed tomography angiograms were selectively performed in symptomatic patients with potential DVT/PE.RESULTS:Four (2.8%) patients developed DVT 2-6 days postoperatively and required inferior vena cava (IVC) filters. One of the four had a positive routine screening Doppler study performed the second postoperative day. Two developed DVT the fourth postoperative day. The fourth patient developed DVT 6 days postoperatively but 3 weeks later embolized around the IVC filter. This patient, the only one to develop a PE, tested positive for Factor V Leiden mutation (hypercoagulable syndrome) and remains on long-term warfarin.CONCLUSIONS:Pneumatic compression stocking prophylaxis effectively reduced the incidence of DVT (2.8%) and PE (0.7%) in 139 patients undergoing multilevel lumbar laminectomies with instrumented fusions. These rates compared favorably with those reported in spinal series employing LDH prophylaxis. American Academy of Orthopedic surgeons: Deep Vein Thrombosis; Effects of Pneumatic Compression DevicesAgainst Venous Thrombosis-Produce flow turbulence in venous valve pockets, the main site of initiation of thrombosis4-Increase the release of endothelium-derived relaxing factor, which inhibits platelet aggregation24-Stimulate fibrinolysis by releasing mediators such as urokinase and tissue plasminogen activator from the venous endothelium25 (intermittent compression)Other Beneficial Effects4-Reduce venous congestion-Reduce compartment pressure-Reduce and concomitant pain and swellingTreatmentPneumatic compression devices are generally combined with chemical prophylaxis in the postoperative setting. Various devices exist, including the following:-Calf pumps-Foot pumps-Foot-calf pumps-Calf-thigh pumpsSome devices have a single chamber, whereas others provide a sequence of.

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