

# Use of Anti-Embolism Stockings: One Year Later

In January, 2000, new procedures regarding the use of anti-embolism stockings, AES, (brand name TEDs) went into effect. (See Network Policy V13-18). In order for this major change to be successful, tremendous educational activities were undertaken, including:

- Production of a staff education video
- Development of a pre and post test
- Inservices for inpatient units, clinics, provider staff, pharmacy, supply, and prosthetics
- Development of an educational storyboard
- Creation of a patient education pamphlet

However, due to the ongoing rotation of staff, these efforts were not enough to assure appropriate stocking use. Therefore a cooperative process with pharmacy, prosthetics, C.I. and all prescribers was implemented.

Pharmacy intercepts each prescription or refill request written for AES, a clinical review is conducted by a C.I. RN to determine if use is justified, or alternatives such as ambulatory compression stockings (brand name JOBST) or mechanical means (such as ankle pumps) are indicated. The findings are communicated to the prescribing clinician, the patient's primary care provider, pharmacy and prosthetics, with recommended action.

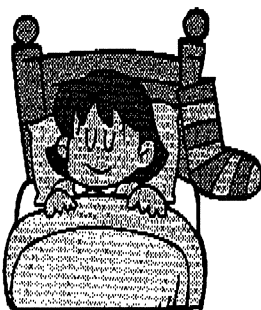
**What has been the outcome?** A total of 171 refill requests (some dating back to 1995), or new prescriptions have been forwarded to C.I. Of the 171 reviewed, 10 or 5.8% have been appropriate for AES. The remaining 94% have resulted in either discontinuation, referral to prosthetics for JOBST stockings or re-evaluation during upcoming clinic appointments.

A surrogate measure to document possible adverse patient outcomes was conducted in association with the National Surgical Quality Improvement Program. Rates of postoperative deep vein thrombosis (DVT) and pulmonary embolism (PE) are monitored for major surgical cases as part of this program. Unadjusted data (raw numbers) were collated from 1997 through the first nine months of 2000. No statistical difference was found when comparing unadjusted

data pre-implementation to post-initiation of this revised policy. Thanks to J. Bonawitz-Conlin, RN for providing this information.

To summarize, AES, are intended for the immobile patient for DVT/PE Prophylaxis and are only available in the knee high model. Additionally the following contraindications for use are identified:

- Arterial insufficiency (including symptoms of claudication, lower extremity pain with elevation)
- Absent peripheral pulses
- Anatomical abnormality (bone spurs, bunions)
- Dermatitis
- Loss of skin integrity
- Massive leg or pulmonary edema from CHF
- Suspected or actual acute deep vein thrombosis
- Lower extremity ischemia or gangrene
- Recent vein ligation
- Recent skin graft
- Ambulatory patient



**ANTI-EMBOLISM STOCKING USE HAS DECREASED WITHOUT ADVERSE PATIENT OUTCOMES REPORTED.**

Ambulatory compression stockings (JOBST), available from Prosthetics, are available in a variety of gradient pressures (10-20 mm Hg, 20-30 mm Hg, 30-40 mm Hg, and 40-50 mm Hg), and may be indicated for slight to pronounced LE edema due to venous insufficiency, varicosities, treatment of post phlebotic syndrome, and lymph edema. JOBST use is not recommended for people suffering from:

- Dermatitis, recent vein ligation, gangrene or recent skin graft
- Severe arteriosclerosis or other ischemic vascular disease
- Massive edema of legs or pulmonary edema associated with congestive heart failure
- Extreme leg deformity

Medical Center Policy explicitly describes appropriate measurement for AES. Orders for ambulatory compression stockings (JOBST), including patient measurement are processed through Prosthetics.

Contact Continuous Improvement if you would like to view the educational video, or have other questions (#3022). A special thanks to Mike Fink, Pharmacy, and Patty Brown, Prosthetics for making our process more clinically appropriate and patient safe.