

## **Physical examination may miss the diagnosis of bilateral varicocele: a comparative study of 4 diagnostic modalities.**

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**PURPOSE:** We evaluated the sensitivity of 3 noninvasive methods for detecting left and right varicoceles. **MATERIALS AND METHODS:** Three noninvasive methods for the detection of varicocele in the left and right internal spermatic veins were evaluated in 214 infertile men, namely, physical examination, scrotal contact thermography and ultrasound Doppler. Venography was used as the reference diagnosis. **RESULTS:** Varicocele was detected in 195 patients (91.1%), on the left side in 37 (19%), on the right side in 3 (1.5%) and bilaterally in 155 (79.5%). Scrotal contact thermography using varicoscreen proved to be the most accurate method. Sensitivity, specificity, accuracy and positive predictive value were 98.9%, 66.6%, 98.5% and 100%, respectively, for left varicocele, and 95.6%, 91.6%, 94.9% and 98%, respectively, for right varicocele. Doppler sonography was associated with the highest number of false-positive results. Accuracy in evaluating retrograde flow was lowest for both sides for physical examination and highest for the combination of Doppler sonography and contact thermography, with a sensitivity, specificity, accuracy and positive predictive value of 100%, 33.3%, 99.0% and 98.9%, respectively, for the left side, and 97.4%, 58.3%, 90.3% and 91.1%, respectively, for the right side. In 165 (85%) of the 195 patients who underwent internal spermatic vein embolization sperm parameters were improved. **CONCLUSIONS:** The present study yielded 2 major findings. **Thermography is more sensitive and accurate for the detection of varicocele than Doppler ultrasound and physical examination, and it can be used for screening as a single modality in infertile men.** Doppler ultrasound and thermography are complementary and their combined use yields the highest sensitivity and accuracy.