

## **Valve therapy is replacing vein therapy**

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Background: Venous insufficiency (VI) is one of the most ignored diseases. People's belief is that 1) VI is mainly genetically determined, 2) there is no way to prevent it, and 3) invasive therapy should be delayed as long as possible, as it has relevant risks, high costs and means no final cure. The introduction of endovenous modalities reduced risks, but expenses for invasive treatments are rising. Patients are still not offered effective therapy unless they show serious problems or large varices. Current efforts are on safety and patient comfort of endovenous methods, like with the next generation of vein gluing, combinations of sclerotherapy and polymer film bandage, internal hyaluronan compression or protein-enforced microfoam. While it is good to improve ablation techniques, it may be even better to reduce the need for it, starting with the early stages.

Studies: Newer studies of our clinics, using broad band high-frequency ultrasound (HFU, 16 – 32 MHz) reveal three different mechanisms of VI: First, congenital valve lesions, found in 47.8% of 6 – 8 year-old kids. These lesions grow during adolescence and set a primary pattern of vein disease. Repair is the only cause-related therapy. Second, pressure-mediated decompensation of valves is the next mechanism occurring in peoples' lives. Internal compression by perivenous fillers seems to be an option. The third component is stasis-related, long-term valve degeneration, well reacting to preventive measures like physical exercise, compression stockings and venotonic/anti-inflammatory medication. There are six stages, from early hemodynamic disturbance to final loss of valve structures, with a new marker called "persistent aggregates", offering effective control for all preventive measures.

Conclusions: Vein salvage means valve salvage. By newest ultrasound analysis, there is a clear differentiation which lesions need primary repair and which deserve proof-based prevention. Early diagnosis and treatment, like in dentistry, is the suggestion for the future.