Title:	MEV ANALYSIS AND VENOUS SURGICAL SIMULATION
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Abstract: (Your abstract must use Normal style and must fit in this space)	The Haemodynamic Venous Map (**MEV**) allows a thorough assessment of the anatomy and of the function of veins, giving a global anatomical and functional picture of the venous system of the lower limbs, which is essential to the successive cartographic analysis (**MEV Analysis**). MEV Analysis is a further step, which outlines generally unused elements of the MEV, such as Paths, Shunts and P-Shunts. A computer representation of the Cartography is mandatory. [**MEV-c** drawn using the **VNet** Program (1991-2005, © Aquarius s.r.l.)] **I/O Paths** are pathways which go from the input to the output of the venous system. Venous-Venous **Shunts** are cyclic pathways. Adopting the R1-R4 terminology, it is possible to assign a role to each branch of the shunt, so coming to the rigorous **Graph Classification**, which includes only as a particular case the Teupitz Classification. For any further development of the automatic analysis, it's fundamental to introduce the **Canonical Form** of the shunt. **P-Shunts** and **P-Shunts Sets** are structures which allow the global study of the shunt function in the venous circulation of the lower limb. The Cycle Index (**CY**) measures the net redundancy, the number of the independent cycles in the ideal no-valve net and the maximal number of admissible cuts in the surgical therapy. Cutting a branch in the net produces haemodynamic effects, which generally are constituted by thrombosis extension, flow inversion, CY and pressure gradient variations. MEV Analysis is essential to face the further chapter of the **Surgical Strategy Planning** (**SSP**), which is performed by the **VNet Surgical Simulator**.