SOPHÒS

HELIOS

CLINICAL BENEFITS

Beat-to-beat ejection check:
capture verification after ventricular pacing and regulation of stimulation energy; confirmation of the correspondence between electrical sensing in right ventricle and actual hemodynamic activity; automatic switch to ventricular-triggered pacing in case of disagreement.

Permanent hemodynamic monitoring in the long-term:
a warning is given to the Physician in case of relevant TVI modifications indicating a deterioration of the hemodynamic function.

Insight into the acute hemodynamic adaptation to physical activity:
helpful for tuning the medical treatment and the pacemaker programming.

It's time to change point of view...

TRANS-VALVULAR IMPEDANCE

an eye inside the heart

TVI
MEDICO

Intracardiac Hemodynamic Monitoring in Sophòs and Helios dual-sensor pacemakers

Rev. 0

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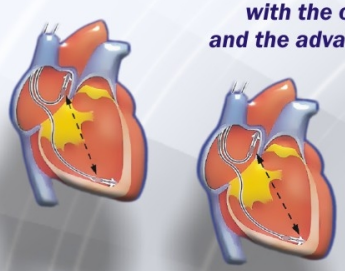
Italian Design for Life

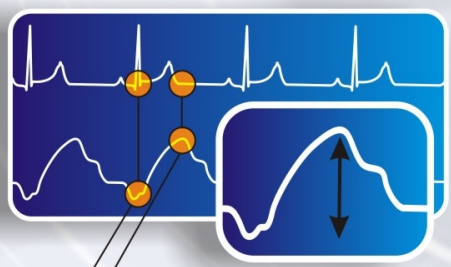
TVI: MAIN FEATURES

Trans valvular impedance (**TVI**)
is derived between right atrium and ventricle,
with the option of different electrode configurations
and the advantage of current autocalibration.



TVI DOESN'T REQUIRE DEDICATED LEADS

TVI WAVEFORM REFLECTS STRUCTURAL
AND VOLUMETRIC VARIATIONS
OCCURRING IN THE RIGHT VENTRICLE
DURING EACH CARDIAC CYCLE



Peak-peak = ESTVI - EDTVI
Modifications of TVI excursion
are related to changes
in stroke volume

Maximum value = ESTVI
is inversely related with the minimum ventricular
volume in telesystole and is sensitive
to myocardial contractility

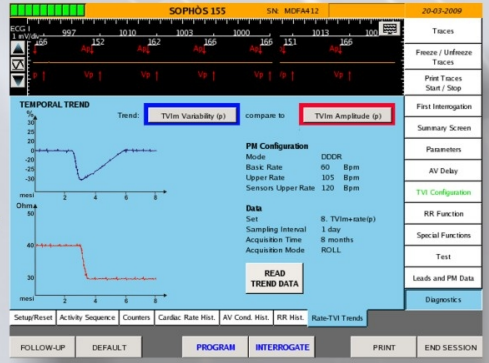
Minimum value = EDTVI
is inversely related with the maximum
ventricular volume in telediastole
and is therefore a preload marker

APPLICATIONS IN SOPHÒS AND HELIOS PACEMAKERS

SHORT AND LONG TERM HEMODYNAMIC MONITORING

(from 30 min with high resolution up to 8 months of daily averages)

In case of relevant changes
in TVI parameters, a message
of HEMODYNAMIC WARNING
is delivered at the follow-up check

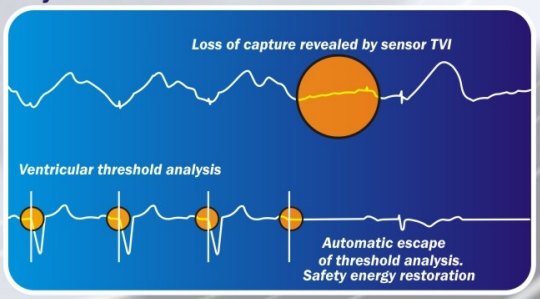


EJECTION CHECK AT EVERY PACED OR SENSED BEAT FOR MAXIMAL PATIENT'S SAFETY

After ventricular pacing,
it allows pulse energy regulation

After ventricular sensing,
it provides protection against
any kind of false-inhibition

Ejection check



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