

Biomedical applications

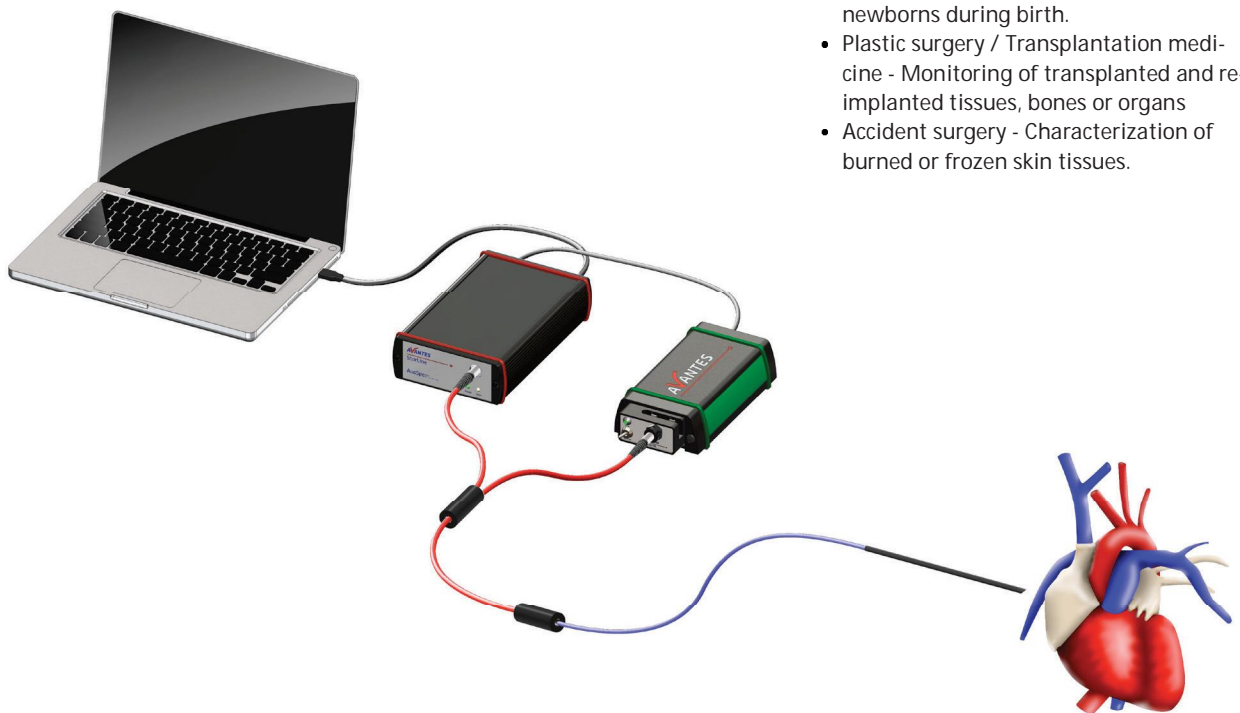
Avantes has extensive experience in the biomedical industry. Over the years, we have supported the development of both non-invasive and invasive spectrometry solutions for tissue and blood parameter measurements.

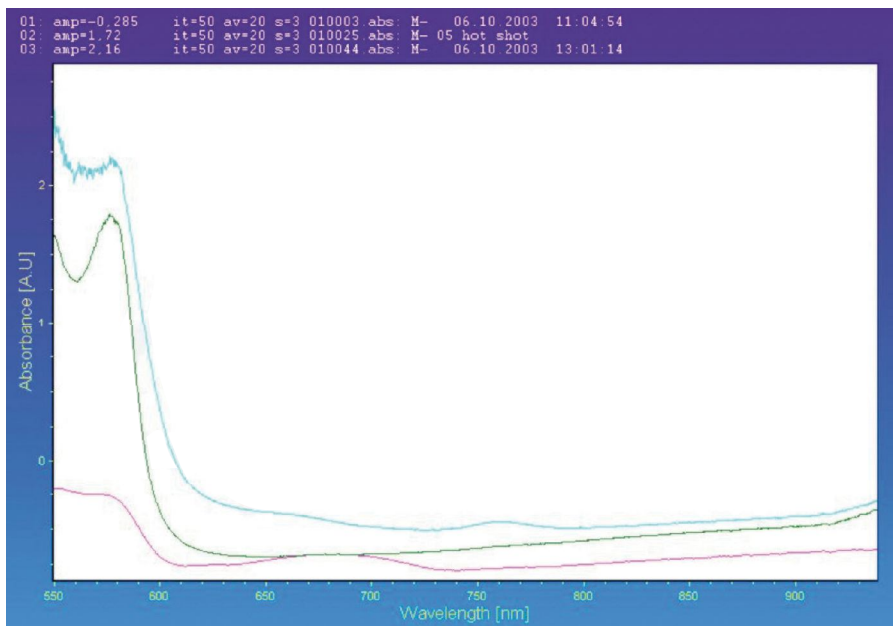
Some of the important medical indicators which Avantes has worked with include oxygen, hemoglobin, cytochrome and water concentration measurements in tissues and in the venous system. The AvaSpec-ULS2048-USB2 and our SensLine instruments are frequently recommended for these applications. The AvaLight-HAL tungsten halogen light source provides an excellent, high-stability VIS/NIR source for biomedical applications involving reflection

measurements. Avantes worked successfully with many customers to enable continuous measurements of oxygen saturation, concentration of total, oxygenated and deoxygenated hemoglobin.

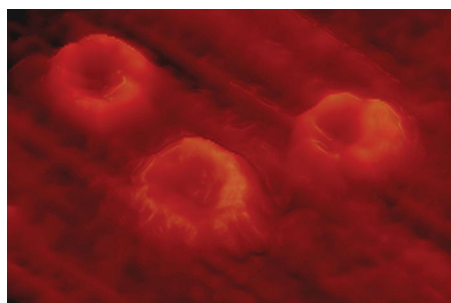
Some examples of implementations of Avantes solutions:

- Angiology / Pharmacology - Monitoring of the oxygen saturation after the application of vaso-active substances. Oxygen changes caused by Reynaud syndrome and microcirculation diseases in tissue.
- Dermatology - Detection of local -regional perfusion diseases, recurrence of melanomas.
- Diabetology - Micro-angiopathy, early detection of Endothel dysfunction and ulceration.
- Cardio surgery - Oxygen consumption of the heart muscle during and after bypass operations.
- Neurosurgery / Oncology - Quantifying of oxygen consumption of (brain) tumors before/after radiation or operations.
- Pediatrics / Gynecology - monitoring of oxygen concentration of critically ill newborns during birth.
- Plastic surgery / Transplantation medicine - Monitoring of transplanted and re-implanted tissues, bones or organs
- Accident surgery - Characterization of burned or frozen skin tissues.





Biomedical



Spectroscopy helps achieving the goal of non-invasive measurement devices. This bundle non-invasively measures concentrations of unknown samples or changes in concentration over time. This bundle is meant for R&D usage.

Typical applications:

- Oxygen in blood
- Hemoglobin
- Microvascular circulation

... and many more

Order information: Ava-Biomedical

Spectrometer	AvaSpec-ULS2048-USB2	Grating NB (500-1000nm) 50 µm slit, OSF-475 AvaSoft-Full and AvaSoft-Chem
Light source	AvaLight-HAL-Mini	Power supply
Fiber optics	FCR-7IR200-2-MS-PK-S	
Included	WS-2	

Did you know
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