Non-invasive monitoring of oxygen delivery in acutely ill patients: new frontiers.

Ann Intensive Care. 2015 Dec;5(1):24. doi: 10.1186/s13613-015-0067-7. Epub 2015 Sep 17.

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Hypovolemia, anemia and hypoxemia may cause critical deterioration in the oxygen delivery (DO2). Their early detection followed by a prompt and appropriate intervention is a cornerstone in the care of critically ill patients. And yet, the remedies for these life-threatening conditions, namely fluids, blood and oxygen, have to be carefully titrated as they are all associated with severe side-effects when administered in excess. New technological developments enable us to monitor the components of DO2 in a continuous non-invasive manner via the sensor of the traditional pulse oximeter. The ability to better assess oxygenation, hemoglobin levels and fluid responsiveness continuously and simultaneously may be of great help in managing the DO2. The non-invasive nature of this technology may also extend the benefits of advanced monitoring to wider patient populations.