17-1 CO$_2$- and H$_2$S-balneotherapy: facts and future directions

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In the literature relevant knowledge is available about the properties and physiological effects of CO$_2$ and H$_2$S. Both gases penetrate the skin easily and increase microcirculation of the skin. Additionally, effects on thermal receptors (CO$_2$) and pain perception (H$_2$S) have been demonstrated in several trials. Other effects of H$_2$S refer to a modulation of immune cells. From this knowledge indications and contraindications may be derived. However, there is a need for prospective controlled trials to prove the efficacy of such treatments. Future directions and perspectives of research using these balneological remedies will be discussed.