Treatment of burns can be divided into 3 phases. During first 36 hours fluid resuscitation and securing airways are the most important aspects of therapy. The fluid resuscitation is complex, and protocols are used to increase the consistency and success of treatment. The adequacy of the protocols should be continuously monitored and adjusted to the patients response. Current studies are exploring the use of antioxidants to minimize the oxidant stress during the burn shock phase. The aim of this thesis is to review current strategies in fluid resuscitation during the first 36 hours after burns.