

## Lactate and Mortality

Plasma lactate has similarly high predictive power to base excess for mortality in patients with various forms of shock including cardiac, hemorrhagic, and septic shock: Subsequent mortality is approximately 50 % when plasma lactate (not blood lactate) exceeds 4 to 7 mmol/L in the first 24 to 48 hours of shock [10a, 21, 22, 65, 76, 80, 137, 138, 148a, 179, 183, 184].

Corresponding data of 6 different studies with a total of 839 patients are summarized in figure 2: An initial value of only 3 mmol/L plasma lactate concentration predicts a 25 % mortality of cardiac, hemorrhagic, and septic shock patients.

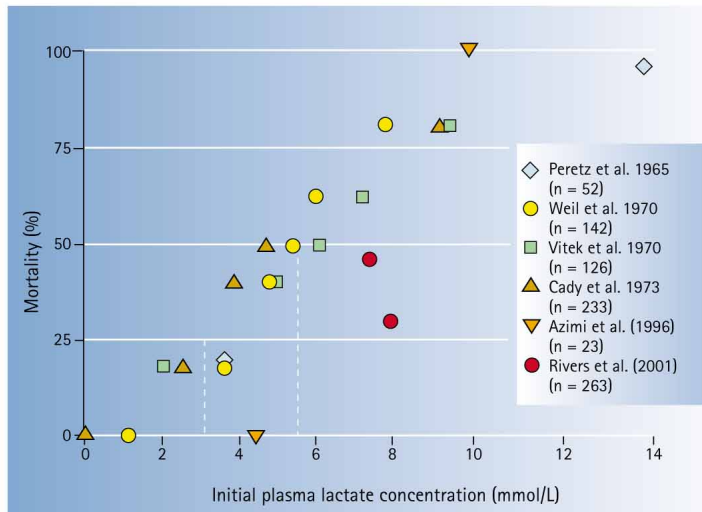


Figure 2: Mortality vs. plasma lactate concentration in shock patients

## Ringer's Lactate and Lactate Assay

Many physicians apparently are not aware that the use of lactate-containing infusion fluids (such as Ringer's lactate) or blood products (such as packed red cells) and the diagnostic use of lactate as a marker of hypoxia are mutually exclusive [34]. Unfortunately, this error tends to be re-published time and time again [1, 22, 29, 70]. It is medical nonsense to infuse up to 50 L of Ringer's lactate within 24 hours [69] and at the same time attempt to establish a correlation between lactate concentration and oxygen deficiency: "Lactate levels seem to correlate with oxygen failure and death [70]."

## Specific Problems With Lactate

The potential correlation between plasma lactate and panic attacks and the increase in lactate concentrations after hyperventilation and epileptic seizures are beyond the scope of this booklet.