

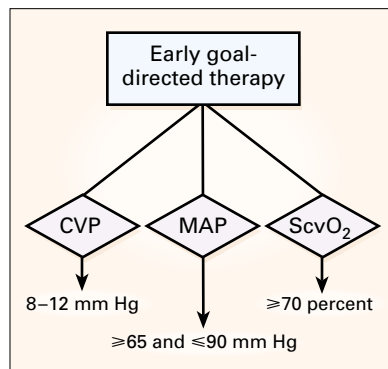
“Intensive insulin therapy to maintain blood glucose at or below 110 mg per deciliter reduces morbidity and mortality among critically ill patients.”

Intensive Insulin Treatment for Critically Ill Patients

Hyperglycemia is common in critically ill patients, but it is not known whether normalization of blood glucose levels with insulin therapy improves the prognosis. This trial compared intensive insulin treatment (maintenance of blood glucose levels at 80 to 110 mg per deciliter) with conventional treatment in patients admitted to a surgical intensive care unit. Most of the patients did not have a history of diabetes. Intensive insulin therapy reduced mortality among patients who spent more than five days in the intensive care unit and reduced rates of multiple-organ failure due to sepsis and acute renal failure.

Normalization of blood glucose levels with intensive insulin therapy reduces morbidity and mortality, even in patients without prior diabetes. These results require confirmation in multicenter trials, but they suggest that intensive treatment of modest hyperglycemia may have a substantial effect on the prognosis of critically ill patients.

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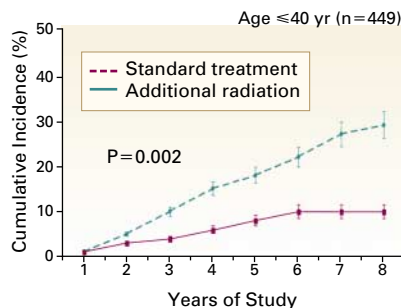


Goal-Directed Therapy for Severe Sepsis

Severe sepsis is a common clinical problem associated with a high mortality rate. Goal-directed therapy involves algorithmic adjustment of central venous pressure, mean arterial pressure, and central venous oxygen saturation to balance systemic oxygen supply with oxygen demand. In this study, goal-directed therapy, initiated early, reduced in-hospital mortality from 46.5 percent to 30.5 percent.

The principal features of goal-directed therapy are the targeted use of vasoactive and inotropic drugs along with volume expansion and blood transfusion to prevent multiorgan failure due to tissue hypoxia. Early goal-directed therapy holds promise for achieving this objective and for reducing mortality in severe sepsis and septic shock.

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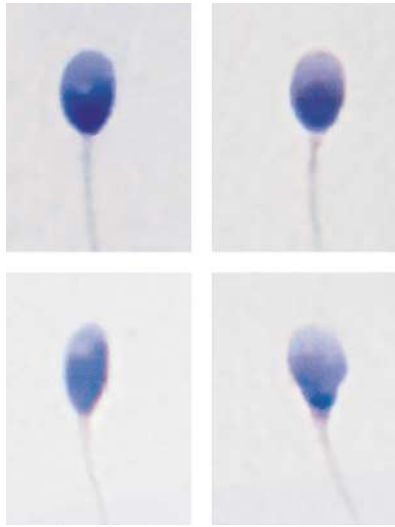


Treatment of Breast Cancer with Standard Radiotherapy plus Additional Radiation

Breast-conserving surgery (usually lumpectomy) followed by local radiotherapy is a standard treatment for early breast cancer. This study found that additional radiation (a “booster dose”) aimed at the center of the site of the excised tumor reduced the rate of local recurrences, especially in women younger than 50 years of age.

Despite optimal treatment, the prognosis for early breast cancer in women under the age of 50 is not as good as that in older women. This randomized study of radiotherapy in more than 5000 patients may influence the treatment of young women who have undergone complete resection of early breast cancer. The study, which has promising results, will have to be continued with a long follow-up to determine whether the booster dose of radiation affects survival without increasing the risk of long-term complications of local radiotherapy.

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Sperm Characteristics in Fertile and Infertile Men

Sperm concentration, motility, and morphology were assessed in 765 men in infertile couples and 696 men in fertile couples to identify values that would distinguish fertile from subfertile men. Subfertile ranges were a sperm concentration of less than 13.5 million per milliliter, less than 32 percent motility, and less than 9 percent sperm with normal morphologic features. Fertile ranges were a concentration greater than 48.0 million per milliliter, greater than 63 percent motility, and greater than 12 percent normal morphologic features. However, there was extensive overlap between fertile and infertile men with regard to all measures.

This study establishes threshold values for sperm concentration, motility, and morphology that can be used to identify men who are infertile. However, none of these thresholds can be considered diagnostic of infertility.

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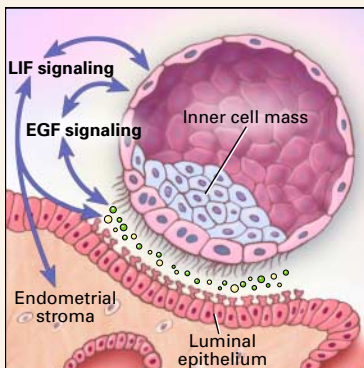
“The goal of treatment should be improved coping with symptoms rather than their elimination.”

Clinical Practice: Hypochondriasis

A 39-year-old woman repeatedly sees her physician for symptoms including paresthesias and “swelling” of the hands and feet. The results of physical examination and laboratory studies have been normal, yet this has failed to reassure her. She is now concerned that she has lupus and urgently requests a rheumatology consultation. How should you manage this problem?

This Clinical Practice article discusses strategies for the treatment of patients with hypochondriasis.

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Mechanisms of Disease: Implantation and the Survival of Early Pregnancy

The implantation of fertilized ova and the formation of the placenta are crucial steps in reproduction. This review summarizes current information about these steps, including some of the molecular mechanisms that mediate them and how they may go awry, with consequent loss of the pregnancy.

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