



**Karolinska  
Institutet**

**Institutionen för Fysiologi och Farmakologi**

# **Physical and Psychological Problems after Critical Illness Prediction, Detection and Treatment**

**AKADEMISK AVHANDLING**

som för avläggande av medicine doktorsexamen vid Karolinska Institutet  
offentligen försvaras i Nanna Svartz Auditorium (A7:00), Karolinska  
Universitetssjukhuset Solna.

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av

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Leg Sjuksköterska

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## ABSTRACT

The prevalence of physical and psychological problems after critical illness is high. To improve long-term outcome in Intensive Care Unit (ICU) survivors, follow-up programmes are under development. However, the optimal organization, duration and content of ICU follow-up has not yet been established and the efficacy of ICU follow-up is uncertain.

A new multidisciplinary model for helping ICU survivors by identifying and managing untreated physical and psychological problems was developed. Findings from the first year of follow-up were described and treatment effects of this interventional follow-up were evaluated. Novel methods for predicting patients at risk for physical and psychological problems following critical illness were investigated.

Multidisciplinary screening and treatment of problems was feasible in identifying and helping ICU survivors with untreated physical and psychological problems. Patients screened and treated in the first six months appeared to have little need for further ICU follow-up. Women reported more psychological problems than men after critical illness and multidisciplinary ICU follow-up reduced the prevalence of more severe symptoms of post-traumatic stress and depression in women. Predictive models for use at ICU discharge, separately screening for physical disability and psychological morbidity were developed. Weighted predictors for estimation of the probability of physical or psychological problems two months after ICU discharge were included in the two screening instruments. Significant predictors for new-onset physical disability were low education level, reduced core stability, fractures and an ICU stay >48 hours. Predictors for psychological morbidity were major pre-existing disease, being a parent to children <18 years of age, previous psychological problems, in-ICU agitation, being unemployed or on sick-leave prior to ICU admission and exhibiting depressive symptoms in the ICU. Both instruments had fair predictive accuracy in identifying ICU survivors with morbidity after ICU stay and performed better than ICU length of stay as a method of selecting patients with likely need for support.

*Key words:* Intensive Care Unit, Critical Care, Follow-up, Physical disability, Post-traumatic stress, Anxiety, Depression

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