Introduction:
Studies have shown that ICU survivors exhibit long-term neurocognitive impairment and perceived reduction in quality of life after ICU discharge, but studies examining sleep architecture and sleep disordered breathing (SDB) in ICU survivors after ICU discharge are scanty. The aim of our study was to assess sleep architecture and SDB in ICU survivors.

Methods:
ICU survivors were screened for eligibility. Inclusion criteria were: age 18 - 80 yrs, mechanical ventilation ≥ 48 hours, GCS of 15 at the time of hospital discharge. Patients with a history of SBD, chronic neuromuscular disorders, chronic restrictive lung disease, congestive heart failure and respiratory failure at hospital discharge were excluded. Patients were evaluated within one week after hospital discharge and 6 months later. At both visits patients completed health related quality of life questionnaires (SF36 and Epworth Sleepiness Scale), underwent a physical examination, lung function tests including maximum inspiratory and expiratory mouth pressures, and an overnight full polysomnography (PSG).

Results:
Sleep quality at 7 days of hospital discharge is poor, characterized by severe disruption of sleep architecture and excessive SDB, mainly of obstructive type which in 76% of patients was classified as moderate or severe. Although at six months after hospital discharge sleep quality remained relatively poor, significant improvement in N3 stage and AHI was observed, with more patients to be classified as normal or mild SDB. Both at hospital discharge and 6 months later quality of life was reduced but there was no relationship between the health related quality of life and sleep disturbances.

Conclusion:
ICU survivors experience significant deterioration in their quality of life status with minor improvement 6 months later and a variety of sleep disturbances that seems to start getting better 6 months later.