# Hospitalization-associated physical inactivity in elderly patients with advanced non-small-cell lung cancer.

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## Introduction

Cancer patients may need multiple hospitalizations for anti-cancer treatment or supportive care. Hospitalization is often causes new or worsening disability in older patients. It is called as hospitalization associated disability (HAD) [1]. HAD may be caused by the physical inactivity. However, little is known about the impact of hospitalization on their physical activity (PA) after discharge in elderly patients with advanced cancer.

1) Kenneth E. Covinsky Hospitalization-Associated Disability.JAMA,October 26,2011,Vol306,No.16

## Objectives and Methods

◆ **Objective**

- to explore changes in PA before and after hospitalization.

◆ **Methods**

- prospective observational study (approved by IRB)
- patients aged >=70 years with advanced NSCLC (stage IV) and scheduled to commence first-line chemotherapy
- Physical activity (steps per day, SPD) was measured by the accelerometer (Lifecorder-GS, SUZUKEN, Japan).
- Mean±SE of SPD during 7 days were calculated at each assessment point.

## Results

Table.1

### Patients characteristics

| Patients | N = 22 |
|---|---|
| Median age (range), years | 75.5 (70-83) |
| Sex (male: female) | 13:9 |
| ECOG Performance Status 0/1/2 | 6/15/1 |
| Baseline SPD mean (range) | 3941 (803-19957) |
| **Hospitalization** | **N = 44** |
| Chemotherapy | 30 (52%) |
| Treatment of complications | 11 (32%) |
| Others | 3 (15%) |

### Changes of SPD from before to after Hospitalization

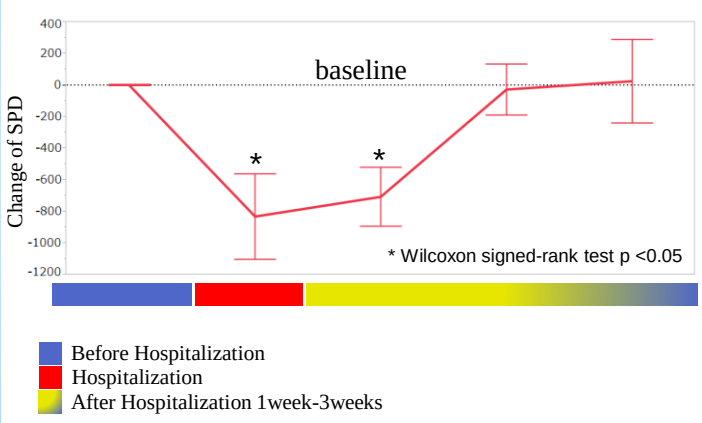


**Fig.1 Summary**

- SPD reaches to bottom during hospitalization
- It gradually recovers 2 week after discharge.

**Can we predict who can recover, and who can not recover?**

## Longer hospitalizations yield slower recovery after chemotherapy

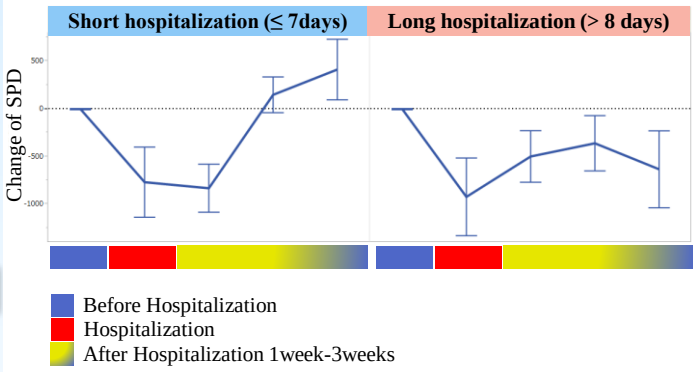


**Fig.2 Summary**

- Recovery of the physical activity delays in patients who spend longer days at hospital for chemotherapy.

## Recovery delays in poor walker

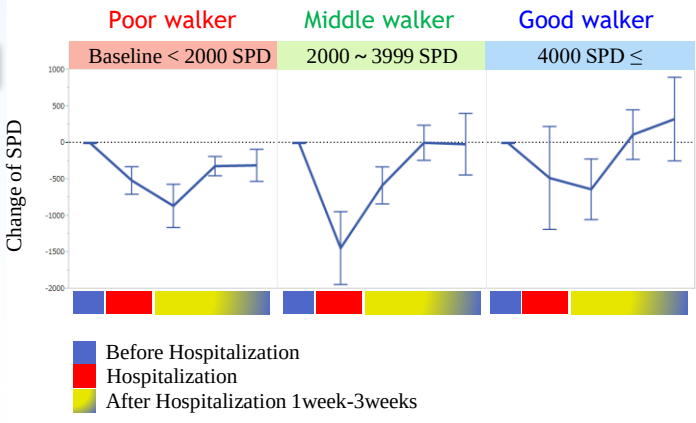


**Fig.3 Summary**

- **Patients were classified into 3 groups by their baseline physical activity with cutoffs of 2000 and 4000 SPD.**

Poor walker doesn't recover to the same level of before hospitalization.

Middle walker has profound reduction in physical activity during hospitalization and has recovered during the next 2 weeks.

Good walker has small reduction in physical activity during hospitalization and has improved after discharge.

## Conclusions

Elderly patients with advanced NSCLC are at high risk for physical inactivity after hospitalization. Appropriate planning of optimal length of hospital stay and inpatient exercise program might help us prevent hospitalization-associated physical inactivity and keep independence in this population.

## Further information

There is no conflict of interest.
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