Introduction
Wheelchair seating is usually recommended for people with impaired mobility function. In common seating prescription, we aim at minimizing the intensity of interface pressure for sore prevention, while maximizing the duration of seating for achieving the greatest functional level.

Objectives
(1) To investigate the effect of tilting, reclining and their combinations on the interface pressure between bony prominences at buttocks and wheelchair. (2) To suggest a seating position for a fixed duration without developing sore.

Methodology
Total 12 male and 11 female wheelchair users from Cheshire Home Shatin were invited for participating in this study. A commonly available tilt-in-space wheelchair was selected and adjusted by two variables: (1) tilting angle $\theta$ [$0^\circ$, $10^\circ$ & $20^\circ$] and (2) reclining angle $\beta$ [$90^\circ$, $105^\circ$ & $120^\circ$]. The participants were asked to sit on the wheelchair in total 9 positions created by the two variables. The peak pressure at buttocks for each position was quantified and recorded by a pressure mapping system.

Result
Results In the test of within subject effect, there was a significant tilt effect [$F(2,44)=10.865, p<0.001$] and a recline effect [$F(2,44)=19.590, p<0.001$] with a significant interaction effect among the two variables [$F(4,88)=3.025, p=0.022$] on peak pressure. Pairwise comparisons show that the peak interface pressure was significantly decreased when the tilting angle increased from $10^\circ$ to $20^\circ$ ($p=0.017$), or when the reclining angle raised from $90^\circ$ to $105^\circ$ ($p=0.005$) or from $105^\circ$ to $120^\circ$ ($p=0.001$). By using pairwise t-test, the peak interface pressures was significantly decreased when the wheelchair was adjusted from neutral position, i.e. $0^\circ$ tilting with $90^\circ$reclining angle, to 5 out of 9 specific positions. Discussion It is effective to reduce the interface pressure by increasing the tilting and reclining angles of wheelchair. In our clinical practice, we generally arrange a 2-hour period for each seating session for any suitable patients with severe disability. Regarding to a previous study, the peak pressure should be maintained at $<140\text{mmHg}$ for sore prevention. Thus, we suggest a tilt-in-space wheelchair positioned at “$0^\circ$ tilting and $\geq120^\circ$ reclining” or “$\geq10^\circ$ tilting and $\geq105^\circ$ reclining".