Introduction:
Prolonged cuff inflation in tracheostomised patients inhibits phonation, contributes to dysphagia, causes psycho-emotional distress and results in diaphragmatic weakness. It also increases the risk of ventilation acquired pneumonia and ventilator induced lung injury. The aims of this study were to determine whether cuff deflation trials had an effect on the length of the weaning period, length of ITU stay and total tracheostomy days.

Methods:
A retrospective audit of all tracheostomised patients admitted to ITU at Liverpool University Hospitals NHS Foundation Trust from 8 January 2017 – 30 August 2019 were reviewed. The exclusion criteria included long term tracheostomies, patients who had a tracheostomy at the point of admission, patients who died or were transferred prior to decannulation and patients with insufficient clinical documentation. Trials of early cuff deflation were introduced to ITU on 26 April 2018. Patients were divided into two groups: the ‘pre-trial group’, consisting of patients who received a tracheostomy prior to 26 April 2018, and the ‘post-trial group’ who received a tracheostomy after 26 April 2018.

Results:
183 tracheostomised patients were identified with 70 patients meeting the inclusion criteria. There were 27 patients in the pre-trial group and 43 in the post-trial group. The mean length of ITU stay (43.33 pre-trial vs 39.21 post-trial, p=0.242), the number of total tracheostomy days (31.99 vs 27, p=0.313) and the mean number of days between first cuff deflation and decannulation (21.77 vs 19.11, p=0.385) was not significantly different between groups. The protocol allowed significantly earlier cuff deflation (12.1 vs 4.8 days).

Conclusion:
We present early data that early trials of cuff deflation within 48 hours of tracheostomy insertion can be achieved using a standardized protocol. Its impact on length of stay, duration of ventilation and patient-centered outcomes needs to be investigated in larger multi-centre trials.