Introduction
People with chronic kidney disease, who are haemodialysis dependent (HD), rely on functioning vascular access to enable effective regular treatment. Appropriate cannulation technique is vital to maintain fistula viability and reduce the risk of access related complications (Dalrymple and Go, 2008 and Chenoweth et al 2015). Aseptic Technique prior to cannulation, initiating and discontinuing dialysis treatment is vital in preventing infection and should be used for any procedure that breaches the body’s natural defences (Loveday et al, 2014).

NHS Education for Scotland (NES) in partnership with NHS Greater Glasgow and Clyde (NHS GGC) supported an improvement project on Aseptic Technique and cannulation of Arteriovenous Fistula/Graft (AVF). NHS GGC is the largest health board area in Scotland which carries out 15,700 cannulations per year. A standard procedure for Aseptic Technique was agreed by experts. This comprised of a practice when followed in sequence, maintained an Aseptic Technique which prevents microbes entering the circulatory system. This procedure was included in the NES Aseptic Technique training programme.

Data Collection Methods
There were two methods of data collection in this study:

1. Observation of practice
Consent was given for direct observation of staff by the Lead Nurse and Senior Charge Nurses. All sites and staff were made aware of rationale for clinical observation during regular visits to the clinical area and attendance at directorate meeting.

The observation was conducted using a data collection tool adapted by the Center for Disease Control (CDC) in the United States of America. The CDC website has given permission for the tool to be used to monitor standards in renal services.

2. Questionnaire survey
A questionnaire was developed to investigate staff knowledge of Aseptic Technique and was pre-tested on a random sample of 16 staff to ensure validity in the questions and interpretation of the responses. The questions comprised of assessing knowledge of key aspect for hand hygiene, glove removal, and knowledge of cannulation and understanding of the definition of Aseptic Technique.

Findings
Pre-observation data was collected on 63 dialysis sessions where staff were observed commencing and discontinuing dialysis within 6 dialysis units in NHS GGC.

The following were areas of poor compliance were identified and are highlighted in the graph:
- On 27 (42%) occasions the 6 steps of hand hygiene were not followed, although all hand hygiene moments were taken during cannulation and discontinuing this procedure. During discontinuation of the dialysis on 31 occasions, 6 steps of hand hygiene were not followed (49%).
- It was observed on 32 occasions (49%) that hand hygiene was carried out immediately after glove removal.
- The skin decontaminant was not left on the skin for recommended time on 7 (11%) occasions and on 11 (17%) of the observations the area repalpated after skin decontamination.

Questionnaire
A questionnaire on Aseptic Technique was given to nursing staff. There was some confusion over what Aseptic Technique actually meant. Some nurses thought it should always be sterile. The questionnaire also highlighted nurses not being aware of completing hand hygiene immediately after glove removal, and the key aspect of the 6 hand hygiene steps not being followed.

Educational Intervention
Following the observation of practice, educational sessions were organised for all staff working in the renal unit. The sessions included NES e-learning programme on Aseptic Technique and feedback on the result after initial findings and repeated observational audits carried out so practice could improve. Education was provided over a 6 week period. Ninety-three registered nurses and haemodialysis support workers attended either group.

Following feedback on practice and the delivery of education, Aseptic Technique practice improved.