ICU staff decide to start PN for patient

Inclusion criteria checked for patient by ICU staff
(aged 16y or older; at least half nutritional needs likely to be met by PN; expected to be in intensive care for at least 48 hours; expected stay in UK > 6 months)
patient excluded if pregnant; severe renal failure < 10ml/min and not on renal replacement therapy

If patient eligible for the trial and not excluded

Authorised ICU staff/research staff obtain informed consent or assent from relatives

Research nurse phones central Trial Office giving details needed for randomisation
(trial centre, age, sex, patient group (medical or surgical), nutritional status (subjective assessment))

Patient randomised (adopting factorial design) to either normal feed only, glutamine supplementation only, selenium supplementation only or glutamine AND selenium supplementation
(all formulated PN bags (1500ml volume) are isonitrogenous and isocaloric)

Research nurse contacts hospital pharmacy directly to give allocation number (retaining blinding)

Pharmacy prepares PN for ICU and liaises with PN supplier for needs

Patient on ICU receives PN, research nurse ensures data is recorded and sent to Trial Office,
routine data processed via SICS database

Trial supplementation ceases after 7 days (or earlier if PN stopped for clinical reason)

Research nurse collects in-hospital and discharge information and sends to Trial Office

Patient questionnaire sent at 3 and 6 months from Trial Office