Randomised crossover study to investigate whether patients eat more when food is served on a red plate.

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“Don’t worry about me I never eat much”

"I must be tired tonight Luigi -
I usually eat like a horse."

Background

- Visual acuity and colour perception
- Nutrition in hip fracture patients
- Previous study
  - Care home – 9 males with Alzheimer's disease
  - Red / blue
  - 25% ↑ in food, 84% ↑in drink

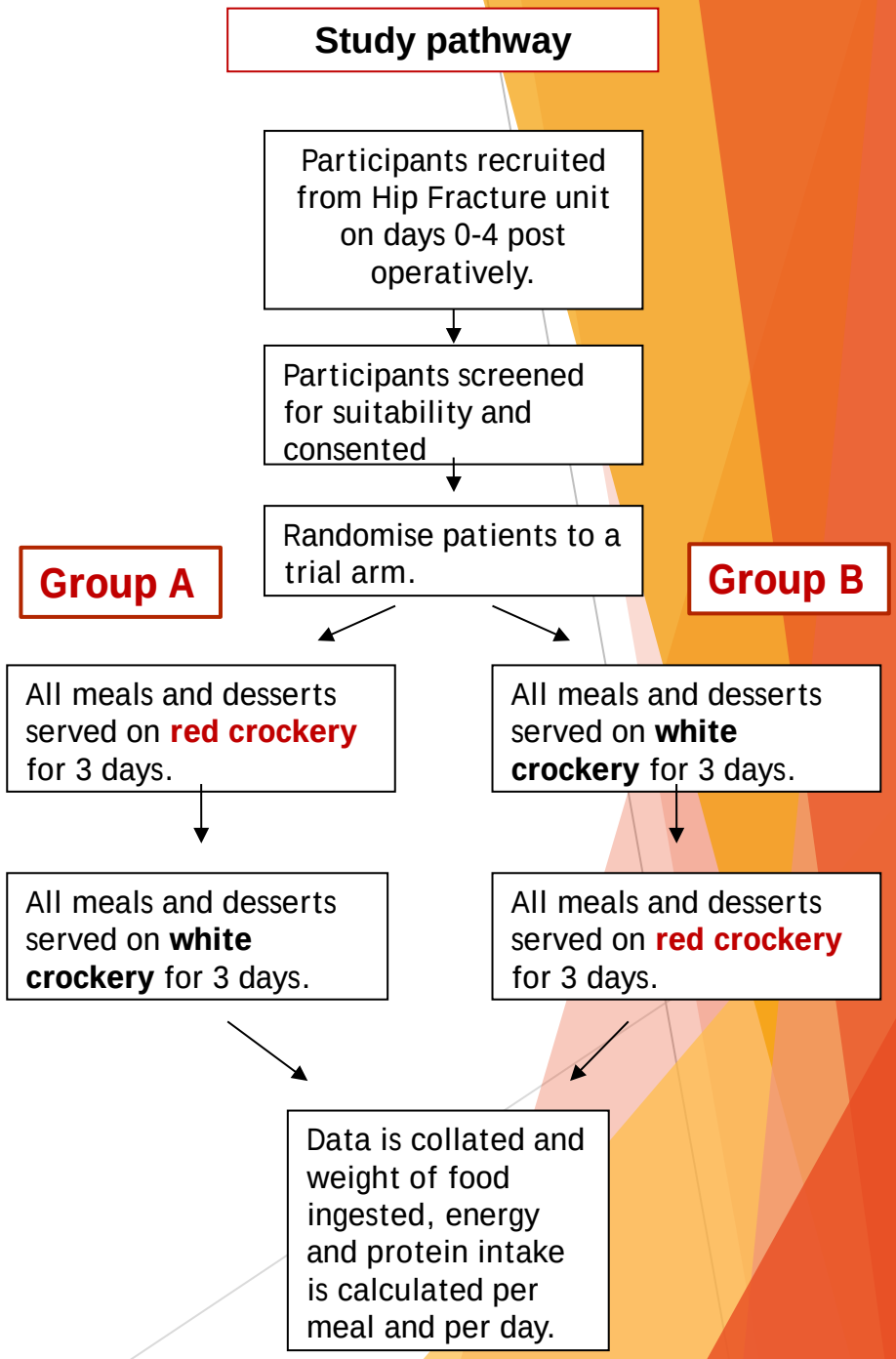
Snapshot Pilot Data

- Lunch weighed over two 10 day periods
  - white plates - 30 patients
  - red plates - 36 patients
- Overall findings: patients with AMTS<7 and patients not requiring assistance with their meals ate significantly more from a red plate.

	White plate	Red plate	P value
AMTS <7	93.7g	123g	P<0.05
No assistance	148.6g	1294g	P<0.05

Methods

- Randomised Crossover study – 99 patients days 0-4 post hip fracture surgery.
- *Inclusion criteria*:
  - new hip fracture, on the hip fracture unit,
  - with or without a cognitive impairment,
  - able and allowed to take food and drinks orally
  - for active treatment.
- *Exclusion criteria*:
  - patients not transferred to the hip fracture unit by day 6 post operatively
  - fed artificially
  - Registered blind
  - having all meals brought in from outside the hospital
  - consistently refusing food or spitting out food due to end stage dementia.
- Statistical analysis

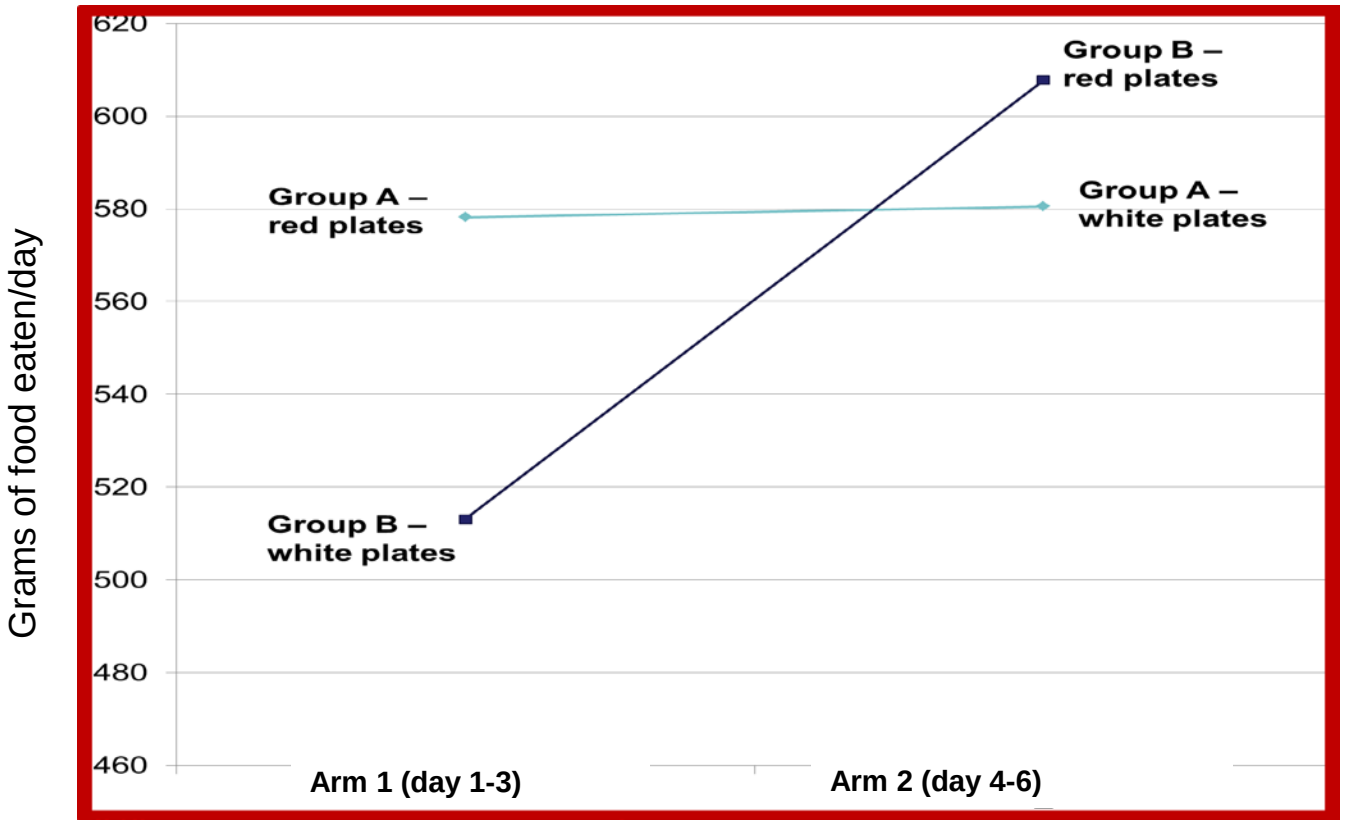


Results

- 99 patients, 80 women, 19 men. Average age 83.9 years
- 32 patients had an abbreviated mental test score (AMTS) of < 7 – suggestive of cognitive impairment
  - 17 in group A
  - 15 in group B

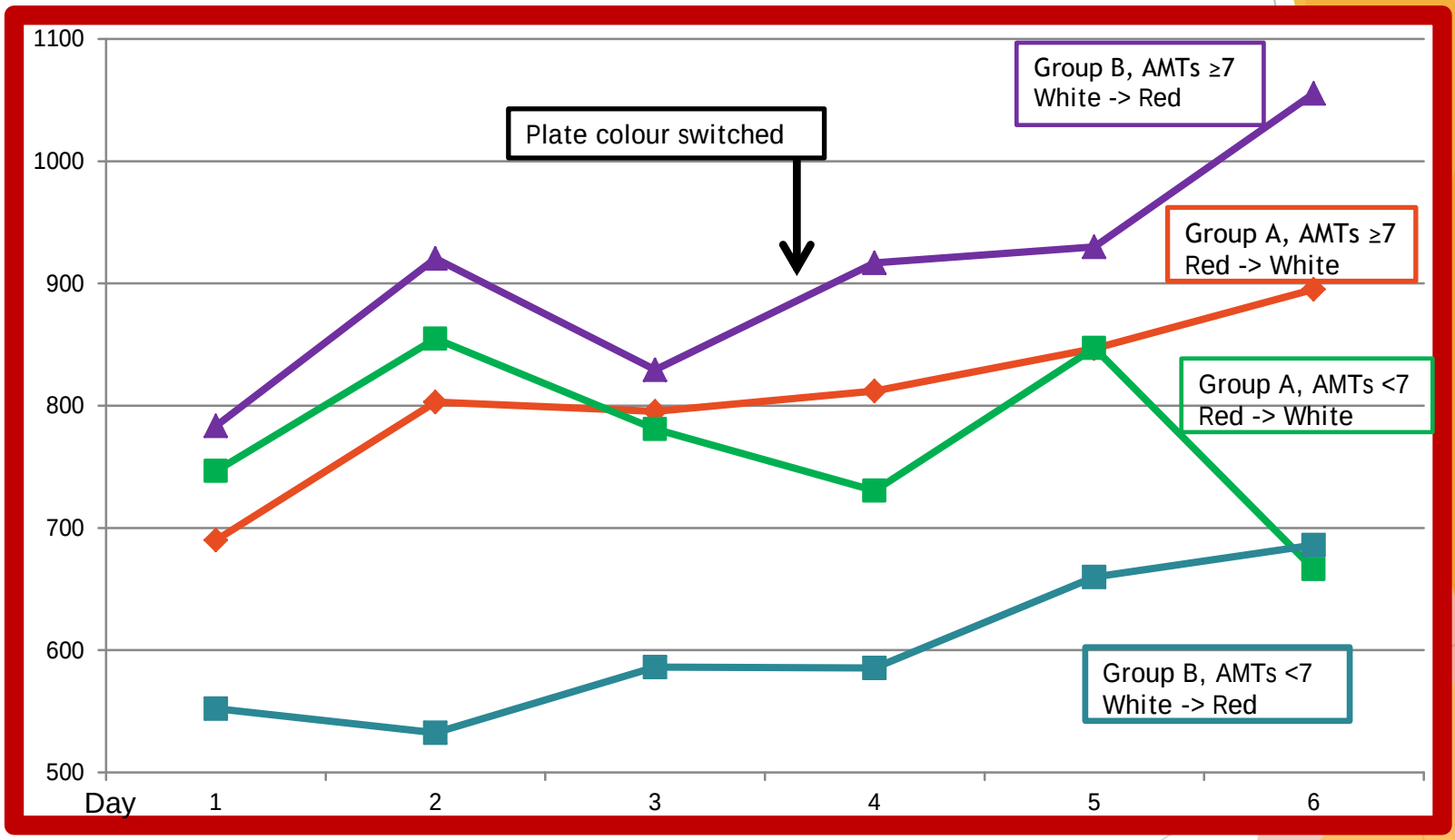
Mean Intake	grams	kcals	Protein
Overall	570g	783	33.1
White	547g	762	32.7
Red	593g	802	33.5
AMTS <7	509g	686	28
AMTS >7	617g	802	37

Mean food intake in groups A + B on each arm of the study



- Oral intake from red plates was 12% higher in arm 1 ($p<0.05$)
- Group B showed an increased intake each consecutive meal once they switched to a red plate

Mean calorie intake in both groups split by cognitive function



- In patients with AMTS <7 there was a 14% increase in oral intake from red plates (across both study arms).

- When data were adjusted for confounding factors such as cognition, comorbidity, ability to self feed; when meals were served on red plates weight of food eaten was higher compared to white. ($p<0.05$)
- However this was a smaller affect than other factors analysed such as days post op and cognitive impairment.

Limitations

- Not all patients had data collected for the full 6 days due to delay getting patients consent, patients being discharged or moving wards.
- Overall intake recorded during the study likely higher than normal (across both study arms) as Dietitian or research assistant present at every meal likely influencing meal service.
- Patients eyesight not assessed

Conclusions

- Hip fracture patients have inadequate nutritional intake (both calorie and protein) following hip fracture surgery, intake improves with time post op.
- Oral intake shown to improve across all hip fracture patients under the orthogeriatrician when meals were served on a red plate.
- Patients with cognitive impairments (AMTS <7) were shown to eat 14% more across their daily intake when meals were served from a red plate.

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Any questions?

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