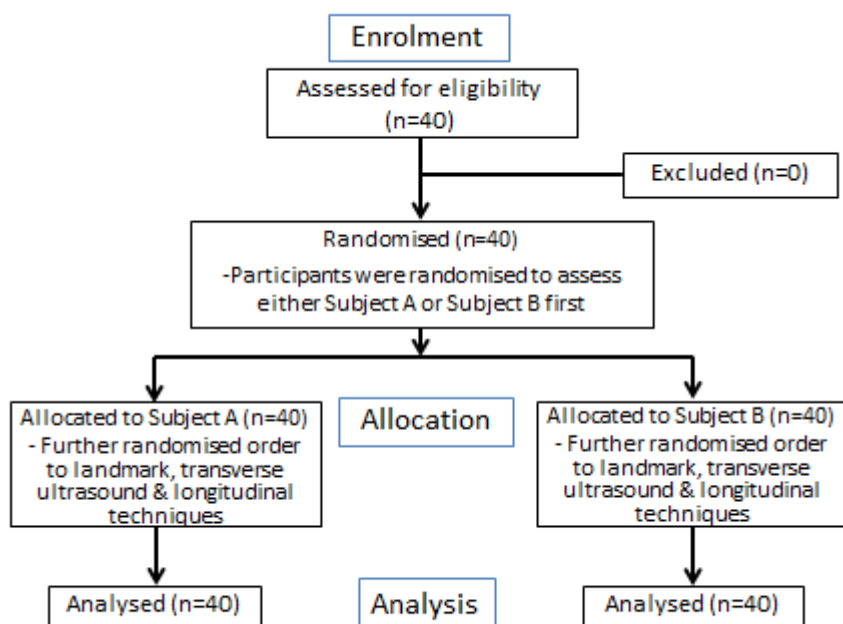


## Participant flow



## Baseline characteristics

**Table 1:** Characteristics of the study subjects.

	<b>Subject A</b>	<b>Subject B</b>
<b>Age</b>	74 years	25 years
<b>Gender</b>	Female	Female
<b>Neck pathology</b>	Previous hemi-mandibulectomy, neck dissection and radiotherapy	Enlarged thyroid gland
<b>BMI (kgm<sup>-2</sup>)</b>	21	27
<b>Neck circumference (cm)</b>	32	36
<b>Cricothyroid membrane (as measured with ultrasound)</b>		
<b>Skin to CTM (cm)</b>	0.51	0.88
<b>Height (cm)</b>	1.20	0.91
<b>Width (cm)</b>	0.99	0.59

BMI = body mass index, CTM = cricothyroid membrane

**Table 2:** Description of the participants and their experience of cricothyroidotomy and ultrasound usage.

<b>Anesthesiologists and experience</b>	<b>Sample number=40</b>
<b><i>Grade</i></b>	
Specialty trainee (year three and above)	12 (32%)
Non-consultant career grade	2 (5%)
Consultant	25 (63%)
<b><i>Trained to perform any cricothyroidotomy</i></b>	
Within 0-6 months	5 (13%)
6-12 months	12 (30%)
1-5 years	18 (45%)
>5 years	2 (5%)
Never	3 (7%)
<b><i>Usage of ultrasound in clinical practice</i></b>	
Yes	40 (100%)
No	0 (0%)

Data represents number (proportion).

## Outcome measures

Primary outcome:

Identification timing of cricothyroid membrane (mean (SD) times in seconds).			
	Landmark	Sagittal ultrasound	Transverse ultrasound
Subject A	20.3 (10.4)	69.0 (44.9)	41.3 (28.6)
Subject B	19.9 (12.4)	55.8 (32.6)	29.7 (15.6)

Secondary outcomes:

Accuracy of cricothyroid membrane identification			
	Landmark	Sagittal ultrasound	Transverse ultrasound
Subject A	65%	45%	50%
Subject B	63%	78%	68%

In comparison of all three techniques in identifying the cricothyroid membrane, participants reported the transverse ultrasound technique gave the highest level of confidence, within the same subject and between subjects. In comparing both ultrasound techniques, 30 (75%) participants felt that the transverse ultrasound technique was easier to learn and 29 (73%) participants felt that the transverse ultrasound technique was easier to perform compared to the sagittal ultrasound technique.

**Adverse events**

There were no adverse events associated with this trial.