BACKGROUND
Better patient education prior to colonoscopy improves adherence to instructions for bowel preparation and probably leads to cleaner colons. We hypothesized that computer assisted instruction (CAI) supported by video and 3D animations improves the effectiveness of nurse counselling, with potential operational advantages.

AIM
To assess the effectiveness of CAI for patient education prior to colonoscopy regarding bowel cleanliness and patient knowledge, comfort and anxiety.

METHODS
We included patients >18 years referred for colonoscopy in a general teaching hospital in the Netherlands. Exclusion criteria were illiteracy in Dutch and audiovisual handicaps. Patients were divided into two consecutive groups, one receiving nurse counselling and one receiving CAI followed by a brief nurse contact shortly before colonoscopy. The CAI was reviewed by expert endoscopists. For the main outcome measure, cleanliness of the colon during examination, endoscopists measured the Ottawa Bowel Preparation Scale (OBPS) and the Boston Bowel Preparation Scale (BBPS). We assessed patient anxiety, patient comfort and general information using three questionnaires validated by expert consensus, which were issued after counselling or CAI and shortly before and after colonoscopy. We assessed knowledge of information provided earlier through a pre-colonoscopy test. Statistical analyses included Mann-Whitney and Chi Square.

RESULTS
We included 385 patients, 197 receiving nurse counselling and 188 receiving CAI. Overall response rates for the three patient questionnaires were 99%, 76.4% and 69.9% respectively. Of the endoscopists, 60.8% returned a questionnaire. Baseline characteristics were similarly distributed among groups. Bowel cleanliness did not differ significantly: on the OBPS, the counselling group scored 6.07 (SD 2.53) and the CAI group 5.80 (SD 2.90), and on the BBPS the scores were 6.54 (SD 1.69) and 6.42 (SD 1.62) respectively. Anxiety scores did not differ significantly. Patient comfort scores were significantly lower after CAI only, but became significantly higher after a brief nurse contact shortly before colonoscopy. Knowledge scores were similar in both groups, with 7.08 (SD 1.17) and 7.31 (SD 1.11). (Table)

CONCLUSION
CAI is a safe and practical modality for instructing patients before colonoscopy. This study found no difference in bowel cleanliness and patient knowledge after nurse counselling or CAI. Since brief personal contact yielded significantly better patient comfort scores, we recommend the combination of CAI with a brief nurse contact for daily practice.

In 2014, the Dutch National Bowel Cancer screening programme started to gradually enroll the first clients from the Dutch population aged 55-75. The procedure for the clients is to first test a faecal sample for (microscopic) occult blood. Clients with a positive test result will be invited for an intake with a screening counsellor and will be scheduled for a diagnostic colonoscopy. In the figure the implications for the Dutch endoscopic capacity are illustrated. The increase in required nurses for counselling is the same.

Watch it work! https://vimeo.com/141342029

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