

# THE IMPACT OF AN INDEPENDENT SECTOR TREATMENT CENTRE ON BASIC SURGICAL TRAINING

PG Vaughan-Shaw SpR in General Surgery<sup>1</sup>

SG Chiverton Medical Director<sup>2</sup>

DA Rew Consultant Surgeon in Breast and Endocrine Surgery<sup>1</sup>

PH Nichols Consultant Surgeon in Colorectal Surgery<sup>1</sup>

<sup>1</sup>University Hospital Southampton NHS Foundation Trust

<sup>2</sup>Southampton NHS Treatment Centre



**The reorganisation of postgraduate medical training in the UK as a result of Calman reforms,<sup>1</sup> the New Deal<sup>2</sup> and the implementation of the European Working Time Regulations (EWTR) has led to a substantial reduction in working hours and a fall in operative experience for surgical trainees. The move of large volumes of minor and intermediate NHS surgical caseload into independently run hospitals and specialist centres (of which the Southampton NHS Treatment Centre, an independent sector treatment centre (ISTC),<sup>3-5</sup> is a well-established example) has also radically altered the basic surgical training environment. The Southampton ISTC is run on contract by Care UK and is medically staffed by a mix of full-time Care UK employees from the UK and abroad as well as by visiting consultants from University Hospital Southampton NHS Foundation Trust (UHSFT).**

The Southampton ISTC was opened in 2008 on the Royal South Hants Hospital site, where an NHS day and short-stay surgical service had been running until local services were reorganised. The degree of enthusiasm and engagement of UHSFT consultants varied significantly in the initial phase and this, in turn, had a significant bearing on the adoption and development of training opportunities at the ISTC. After three years of growth, the ISTC is now a significant feature of local NHS service provision with high levels of public and purchaser satisfaction and of patient throughput.

Over this period, the Southampton ISTC has been regarded as an 'optional extra' for current basic surgical trainees. Consultant-led day-case and short-stay surgery is nevertheless the key to basic surgical training, and must therefore be encouraged and protected.<sup>6</sup> The Intercollegiate Surgical Curriculum Programme (ISCP) syllabus recognises the importance of basic procedures in developing surgical skills and outlines a number of procedures that a general surgical trainee is expected to perform independently or under supervision.

At present, trainees are only invited to attend general surgical and urological lists pending deanery approval of the training value of the other specialty lists. Core surgical trainees (CSTs) are not allocated to or placed at the ISTC for a period of time. Instead, they are invited to book theatre lists online via a trainee-run website and attend as per list availability and commitments at Southampton General Hospital (SGH). This arrangement allows the trainee to choose lists appropriate to his or her

personal development plan but creates conflicts with timetabling at SGH.

This paper reports on the role of the Southampton ISTC in providing basic operating experience and examines the place that the ISTC should take in core surgical training in our trust.

## Methods

Ten procedures that should be performed with or without supervision are listed in the 'early years' section of the general surgical syllabus on the ISCP website. Five index procedures were searched for in the respective theatre databases (Table 1). Theatre databases at the ISTC and at SGH were subsequently searched to identify the number of lists and index procedures performed over a four-month period. Nineteen CSTs (years 1 and 2) in a surgical placement were invited to submit a four-month logbook analysis. The total number of procedures logged, the total number of procedures assisted, the number of ISTC procedures logged and the number of ISTC procedures assisted were requested.

CSTs in other trusts within the deanery were contacted to determine day surgery unit (DSU) attendance arrangements in their trusts. In addition, a questionnaire relating to use of the ISTC was administered electronically to all CSTs in the trust using the internet-based SurveyMonkey<sup>®</sup> tool (<http://www.surveymonkey.com/>). General surgical and vascular consultants in the trust and the deanery Core Surgical Training Programme Director were sent the same questionnaire by post. All data were stored in Excel<sup>®</sup> (Microsoft,

Redmond, WA, US) and analysed using Excel® and Prism® 3.03 (GraphPad Software Inc, La Jolla, CA, US). The Mann–Whitney U test was used to identify any significant differences within the cohort.

## Results

Considerably more index procedures were carried out at the ISTC than at SGH over the four-month period (Table 2). For example, 180 open inguinal hernia repairs took place at the ISTC but there were only 15 at SGH. Over the 4-month period, 168 general surgical and urology lists comprising 616 cases in total occurred at the ISTC. In the same period 499 elective and 1,508 emergency general, upper and lower gastrointestinal procedures were undertaken at SGH. The ASA grade and general health of patients undergoing index procedures at SGH were worse than those at the ISTC.

Seventeen trainees submitted a logbook analysis. They logged an average of 21.1 procedures per month and an average of 6.9 procedures as first operator (ie performed or performed supervised). In total, they logged 338 procedures at the ISTC over the 4-month period. The 9 trainees who attended the ISTC logged an average of 9.4 procedures at the ISTC per month and 28.9 procedures at the ISTC and SGH combined. Those who did not attend logged just 12.3 procedures per month at SGH ( $p<0.0001$ ) (Table 3, Figure 1). Those attending the ISTC logged a greater number of procedures as first operator per month (10.1 vs 3.3,  $p=0.008$ ). Five trainees logged more than ten procedures per month at the ISTC (indicating regular attendance) and an average of thirty-four procedures per month across both hospitals.

The questionnaire was answered by 17 surgical consultants and 17 CSTs. All consultants agreed that all trainees should attend the ISTC while 4 of the trainees disagreed. Of these four, three were aiming for non-general specialties (orthopaedics and otolaryngology). There was little consensus regarding attendance arrangements. The existing arrangement of signing up and arranging internal cover did not have widespread support, particularly among trainees who preferred allocation of theatre lists, days or complete weeks at the ISTC.

Of the 17 consultants and 17 trainees who responded, 13 of each felt that attendance should occur both in and outside of the

**TABLE 1**

| PROCEDURES LISTED IN ISCP SYLLABUS FOR EARLY YEARS TRAINING FOR GENERAL SURGERY |                      |
|---|----------------------|
| Procedure   | Level of supervision |
| Excision biopsy of benign skin or subcutaneous lesions                          | 4                    |
| Ingrowing toenail – avulsion / wedge resection / phenolisation                  | 4                    |
| Excision biopsy malignant skin lesion   | 3                    |
| Breast lump excision  | 2                    |
| Induction of pneumoperitoneum for laparoscopy with port placement               | 2                    |
| Open and close midline laparotomy incision                                      | 2                    |
| Appendicectomy  | 4                    |
| Inguinal hernia repair  | 2                    |
| Primary abdominal wall hernia repair  | 2                    |
| Primary varicose vein surgery   | 2                    |

Level 2: Able to perform the procedure, or part observed, under supervision

Level 3: Able to perform the procedure with minimum supervision

Level 4: Competent to perform the procedure unsupervised

**TABLE 2**

| INDEX PROCEDURES TAKEN FROM THE ISCP SYLLABUS INCLUDED IN STUDY ANALYSIS WITH NUMBERS OF PROCEDURE PERFORMED AT ISTC AND SOUTHAMPTON GENERAL HOSPITAL |      |  |               |            |           |     |
|---|------|--|---------------|------------|-----------|-----|
| Index procedures (elective)   | ISTC | Number of procedures over 4-month period |               |            |           |     |
|   |      | All                                      | ASA grade 1/2 | Consultant | Registrar | SHO |
| Open inguinal hernia repair   | 180  | 12                                       | 5             | 5          | 6         | 1   |
| Open umbilical / paraumbilical hernia repair  | 32   | 14                                       | 2             | 4          | 10        | 0   |
| Skin lesion excision (benign or malignant)  | 108  | 16                                       | 16            | 6          | 9         | 1   |
| Ingrowing toenail (excision/avulsion)   | 5    | 1  | 1             | 0          | 1         | 0   |
| Laparoscopic cholecystectomy  | 79   | 52                                       | 43            | 32         | 20        | 0   |

EWTR 48-hour working week while 1 consultant felt that ISTC attendance should only occur outside of the 48 hours. Analysis of free text comments revealed that the consultants were often concerned about ward cover and the needs of service provision, eg 'allocation of weeks would have a significant effect on service provision', while a number of trainees commented that it was difficult to be 'released' from their firms to attend the ISTC.

Enquiries to CSTs in other trusts ( $n=7$ ) within our deanery revealed that all trusts

had an on-site DSU. No trusts had a booking system but CSTs attended on a 'first-come, first-served' basis or according to the operating consultant. In no trusts were CSTs allocated to lists, days or weeks at the DSU.

## Discussion

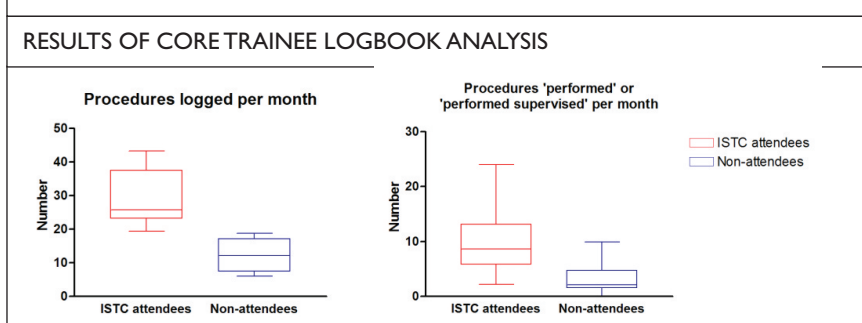
This study demonstrates that the majority of basic surgical procedures in our trust are now performed at the local ISTC. CSTs who attend the ISTC gain considerably more operative experience than those who do not, yet many procedures are not attended by

TABLE 3

| RESULTS OF CORE TRAINEE LOGBOOK ANALYSIS    |                          |                         |
|---|--------------------------|-------------------------|
|   | ISTC attendees           | Non-attendees           |
| Mean number of procedures per month         | 28.9 (95% CI: 23.3–34.5) | 12.3 (95% CI: 8.7–15.8) |
| Average number performed/supervised         | 10.1 (95% CI: 6.0–14.3)  | 3.3 (95% CI: 1.1–5.6)   |
| Average number of procedures at ISTC        | 9.4 (95% CI: 5.2–13.6)   | 0                       |
| Average number performed/supervised at ISTC | 4.2 (95% CI: 1.3–7.1)    | 0                       |

ISTC = independent sector treatment centre; CI = confidence interval

FIGURE 1



a trainee and therefore represent lost training opportunities.

No studies to date have reported on the impact of ISTCs on basic surgical training although Clamp *et al* found that SpRs performed significantly fewer primary arthroplasties after the establishment of a local ISTC.<sup>7</sup> The role of the DSU, however, has been discussed in a number of papers. Weale *et al* studied the logbooks of SHOs in a vascular firm and found that they were first operator in 52% of elective index procedures (varicose vein surgery, haemodialysis access surgery) at a DSU.<sup>6</sup> They concluded that the repetitive nature of procedures performed at a DSU results in an ideal environment for learning operative skills. Nevertheless, in a separate paper, a survey of 100 surgical trainees reported that less than a third had timetabled day surgery lists and that service provision often precluded attendance.<sup>8</sup>

These findings are consistent with our survey, in which trainees indicated that they found it difficult to be released to attend the ISTC. Trusts must therefore ensure adequate internal cover is available for trainees to be released, in particular where travel to a distant site is required. However, without 'motivation' or financial incentive or penalties, training is unlikely to gain greater priority from trusts, especially in times of 'cost improvement programmes'. Furthermore, there is little

motivation for a consultant to ensure adequate training while managers are requesting service activity increases.<sup>9</sup> A move towards the US review committees<sup>10</sup> (which analyse trainee and trainer logbooks and have the power to remove a post's training status) may provide such 'motivation.'

The SHO cohort in the paper by Weale *et al* logged more than double the number of procedures in six months than our cohort (273 vs 126.5 [figure extrapolated from four-month total],  $p=0.0002$ ).<sup>6</sup> This may in part be due to the shorter nature of vascular procedures but more likely reflects the decline in hours and operative experience over the last ten years. A number of other studies have demonstrated a reduction in SHO operative experience over the last decade through logbook or Hospital Episode Statistics data analysis.<sup>11–13</sup> In a paper by Thomas and Karanjia only six hernia repairs and one laparoscopic cholecystectomy were performed as first operator over 6 months by a current SHO compared with 25 hernias and 24 laparoscopic cholecystectomies by an SHO 20 years ago.<sup>14</sup>

ISTC attendance outside the 48-hour week was considered appropriate by all but 2 consultants and 1 trainee surveyed while in practice those who attend do so both within and outside their working

week. Similarly, 67% of respondents to a British Orthopaedic Trainees Association/ Association of Surgeons in Training survey attended clinical work while officially off duty to gain further surgical experience.<sup>15</sup>

It is elective work that has suffered most from the EWTR shift rotas that take trainees away from daytime service to cover emergency and out-of-hours duties. A report by the Royal College of Surgeons calculated that a trainee on a full shift system would only experience 21 hours of daytime service on average in a 48-hour week.<sup>16</sup> It is therefore unsurprising that trainees in our study felt the need to attend the ISTC during time off (of which there are 12 days and 4 half days every 10 weeks). An important issue to trainees is whether such 'voluntary' activities are still covered by the NHS indemnity, especially while at the ISTC.

## Conclusions

The Southampton ISTC is now a fundamental resource for basic surgical training. Formal allocation of trainees to 'training' lists may be deemed essential to ensure that training opportunities are not lost and trainees secure sound core surgical training.

## References

- Calman K. *Hospital Doctors: Training for the Future*. London: DH; 1993.
- NHS Management Executive. *Junior Doctors: The New Deal*. London: DH; 1991.
- Department of Health. *The NHS Plan*. London: DH; 1990. pp96–100.
- Pollock AM, Kirkwood G. Independent sector treatment centres: the first independent evaluation, a Scottish case study. *J R Soc Med* 2009; **102**: 278–86.
- Department of Health. *ISTC Manual*. London: DH; 2005.
- Weale AR, Lear PA, Mitchell DC. Is day case surgery the key to basic surgical training? *Ann R Coll Surg Engl* 2002; **84**: 426–28.
- Clamp JA, Bajji D, Copas DP *et al*. Do independent sector treatment centres (ISTC) impact on specialist registrar training in primary hip and knee arthroplasty? *Ann R Coll Surg Engl* 2008; **90**: 492–96.
- Gopakumar S, Kumar B, Ahmed J *et al*. Day case surgery training for surgical trainees: a disappearing act? *Int J Surg* 2010; **8**: 135–39.
- Taffinder N. Better surgical training in shorter hours. *J R Soc Med* 1999; **92**: 329–31.
- Britt LD, Richardson JD. Residency review committee for surgery: an update. *Arch Surg* 2007; **142**: 573–75.
- Chalmers CR, Joshi S, Bentley PG, Boyle NH. The lost generation: impact of the 56-hour EVTD on current surgical training. *Ann R Coll Surg Engl (Suppl)* 2010; **92**: 102–06.
- Gurjar SV, McIrvine AJ. Working time changes: a raw deal for emergency operative training. *Ann R Coll Surg Engl (Suppl)* 2005; **87**: 140–41.
- Wilson T, Sahu A, Johnson DS, Turner PG. The effect of trainee involvement on procedure and list times: a statistical analysis with discussion of current issues affecting orthopaedic training in UK. *Surgeon* 2010; **8**: 15–19.
- Thomas RL, Karanjia N. Comparison of SHO surgical logbooks a generation apart. *Ann R Coll Surg Engl (Suppl)* 2009; **91**: 356–59.
- Simpson C, Cottam H, Fitzgerald JE, Giddings CE. The European working time directive has a negative impact on surgical training in the UK. *Surgeon* 2011; **9**: 56–57.
- Royal College of Surgeons. *The European Working Time Directive – Interim Report and Guidance*. London: RCS; 2003.