

July 2006

CURRICULUM VITAE
Of
GEORGE HANNA

Reader in Surgery and Consultant Surgeon

St Mary's Hospital
Imperial College London

PERSONAL DETAILS

Name: George Bushra HANNA
Date of Birth: 22nd April 1964

QUALIFICATIONS / AWARD

MB BCh, Faculty of Medicine, Cairo University, Egypt	1988
Professional and Linguistic Assessment Board, UK	1991
FRCS (Edinburgh)	1993
PhD (Dundee)	1997
FRCS (Gen. Surg), special interest in upper gastrointestinal surgery	2002
MErgS (Ergonomic Society, UK)	2004
King James IV Professorship award	2005
FRCS (England) ad eundem	2006

REGISTRATION

General Medical Council: 4308458

APPOINTMENTS

2005- *Reader in Surgery and Upper Gastrointestinal Consultant Surgeon*
Department of Biosurgery & Surgical Technology, St Mary's and Harefield
Hospitals, Imperial College of Science, Technology and Medicine, London

2003-2005 *Clinical Senior Lecturer and Upper Gastrointestinal Consultant Surgeon*
Department of Surgical Oncology and Technology, St Mary's and Harefield
Hospitals, Imperial College of Science, Technology and Medicine, London

2000-2003 *Clinical Lecturer to Professor Sir Alfred Cuschieri*
Department of Surgery and Molecular Oncology, University of Dundee, Scotland

1996-2000 *Specialist Surgical Registrar*
Tayside University hospitals NHS trust, Tayside, Scotland

1994-1996 *Clinical Research Fellow to Professor Sir Alfred Cuschieri*
Department of Surgery, University of Dundee, Scotland

1992-1994 *Senior House Officer - Tayside Basic Surgical Training Scheme*
Ninewells Hospital and Medical School, Dundee, Scotland

1991-1992 *Senior House Officer - Banha Teaching Hospital, Egypt*

1988 -1989 *Pre-registration House Officer, Cairo University Hospital, Cairo, Egypt*

CLINICAL EXPERIENCE

The majority of my practice is upper GI surgery, and I am currently the lead upper GI clinician at St Mary's Hospital. St Mary's unit is the regional upper GI cancer centre for West London, managing upper GI cancer for a population of 1.3 million in a multidisciplinary approach. My practice in minimal access surgery entails a variety of advanced laparoscopic procedures. I have been fortunate to work in two centres of excellence for minimal access surgery: St Mary's and Ninewells Hospitals.

I had four years training in upper GI surgery under the direction of Professor Sir Alfred Cuschieri in Tayside and Fife regions. As Ninewells Hospital is a tertiary referral centre for reconstructive and re-do gastric surgery, I gained experience in pouch reconstruction, jejunal interposition and distal ileal onlay grafts.

I had the opportunity to be attached as a visiting surgeon at international leading centres in upper GI cancer surgery such as the Tokyo National Cancer Centre in Japan (with Dr Sasako and Dr Sano) and the Queen Mary's University Hospital at Hong Kong (with Professor John Wong).

RESEARCH EXPERIENCE

My research interest is surgical ergonomics and technology, skills assessment, clinical safety and upper gastrointestinal cancer surgery. I lead a team of 10 surgeons and engineers working in surgical ergonomics and evolving medical technology based at the Department of Surgery, St Mary's Hospital with a collaborative research program across Imperial College and at a national level (MRC Safety network). This group is funded by the Department of Health, Scottish Office, BUPA foundation, NHS, Industry and overseas PhD fellowships.

Current funded research themes (2-3 year projects) are:

- Use of human reliability analysis to evaluate the quality of surgery for oesophageal cancer
- Ergonomic analysis of technical performance and recovery for gastric cancer surgery
- Use of human reliability analysis to evaluate techniques for rectal cancer surgery
- Factors influencing mental workload during laparoscopic surgery
- Ergonomics of hand-assisted laparoscopic surgery
- Ergonomics of paediatric minimal access surgery
- Development of a self-illuminating LED endoscope
- Development of a real time tissue compliance mapping endoscopic system
- Development of a system for bowel anastomosis using radiofrequency energy
- Metabonomics of gastro-oesophageal cancer
- Breath test to diagnose gastro-oesophageal cancer.

TEACHING ACTIVITIES

Since February 2004, I have been the director of postgraduate section of **St Mary's Clinical Skills Unit**. The Unit conducts a variety of basic and advanced laparoscopic courses, as well as pioneering new models for nursing and clinical practice. The Unit will also run a pioneering curriculum for integration of laboratory training into the Higher Surgical Training program for the North West Thames Specialist Registrar Rotation. My role as the unit's director entails administration responsibilities, design and implementation of unit strategy and supervision of postgraduate courses. St Mary's Clinical Skills Unit was awarded the Queen's Anniversary Prize for Higher and Further Education in 2001 under the leadership of Professor Sir Ara Darzi.

During my work in the University of Dundee, I was deeply involved in the regular activities of the **Dundee Surgical Skills Unit** (1994-2003). I carried out my research in the unit research laboratory as part of my PhD (1994-1996). After I returned to full clinical practice in 1996, I continued to take part in the lecturing and demonstration of laparoscopic skills in both basic and advanced laparoscopic courses. I also participated in the unit's administration meetings. The Surgical Skills Unit conducted the degree of Master in Minimal Access Surgery (MMAS). I led the unit research group in ergonomics, skills assessment and human reliability analysis (2 PhD, 2 MD, 8 MMAS). The Surgical Skills Unit was awarded the Queen's Anniversary Prize for Higher and Further Education in 1999 under the direction of Professor Sir Alfred Cuschieri.

PUBLICATIONS

Original articles

1. **Hanna GB**, Newton DJ, Harrison DK, Belch JJF, McCollum PT. Use of lightguide spectrophotometry in quantifying skin oxygenation in a variable model of venous hypertension. *Br J Surg* 1995; 82: 1352-6.
2. **Hanna GB**, Drew T, Clinch P, Hunter B, Shimi S, Dunkley P, Cuschieri A. A microprocessor-controlled psychomotor tester for minimal access surgery. *Surg Endosc* 1996; 10: 965-9.
3. White PS, Frazier FA, **Hanna GB**, Tan LKS, Gardiner Q, Cuschieri A. Comparison of direct monocular endoscopic, two and three-dimensional display systems on surgical task performance in functional endoscopic sinus surgery. *Clin Otolaryngol* 1997; 22: 65-7.
4. **Hanna GB**, Newton DJ, Harrison DK, McCollum PT. Use of lightguide spectrophotometry to investigate the effect of posture changes on skin oxygenation in patients with deep venous insufficiency. *Br J Surg* 1997; 84: 520-3.
5. Newton DJ, Harrison DK, **Hanna GB**, Thompson CJA, Belch JJF, McCollum PT. Microvascular blood flow and oxygen supply in ulcerated skin of the lower limb. *Adv Exp Med Biol* 1997; 428: 21-6.
6. **Hanna GB**, Shimi S, Cuschieri A. Optimal port locations for endoscopic intracorporeal knotting. *Surg Endosc* 1997; 11: 397-401.
7. **Hanna GB**, Drew T, Clinch P, Shimi S, Dunkley P, Hau CM, Cuschieri A. Psychomotor skills in minimal access surgery -differing abilities between right and left-handed individuals. *Ann Surg* 1997; 225: 333-8.
8. **Hanna GB**, Frank TG, Cuschieri A. Objective assessment of endoscopic knot quality. *Am J Surg* 1997; 174: 410-3
9. **Hanna GB**, Shimi S, Cuschieri A. Influence of direction of view, target-to-endoscope distance and manipulation angle on endoscopic knot tying. *Br J Surg* 1997; 84: 1460-4.
10. **Hanna GB**, Shimi S, Cuschieri A. Task performance in endoscopic surgery is influenced by location of the image display. *Ann Surg* 1998; 227: 481-4.
11. Hensman C, **Hanna GB**, Drew T, Moseley H, Cuschieri A. Total radiated power, infrared output and heat generation by cold light sources at the distal end of endoscopes and fibre optic bundle of light cables. *Surg Endosc* 1998; 12: 335-7.
12. Connor SJ, **Hanna GB**, Frazier FA. Appendiceal tumours: retrospective clinicopathological analysis of appendiceal tumours from 7970 appendectomies. *Dis Colon Rectum* 1998; 41:75-80.
13. Joice P, **Hanna GB**, Cuschieri A. Errors enacted during endoscopic surgery - a human reliability analysis. *Appl Ergon* 1998; 29: 409-14.
14. **Hanna GB**, Shimi S, Cuschieri A. Randomised study of influence of two-dimensional versus three-dimensional imaging on performance of laparoscopic cholecystectomy. *Lancet* 1998; 351: 248-51.
15. **Hanna GB**, Drew T, Clinch P, Hunter B, Cuschieri A. Computer-controlled endoscopic performance assessment system. *Surg Endosc* 1998; 12: 997-1000.

16. Joice P, **Hanna GB**, Cuschieri A. Ergonomic evaluation of endoscopic bowel suturing. *Am J Surg* 1998; 176: 373-8.
17. **Hanna GB**, Cuschieri A. Influence of optical axis-to-target view angle on endoscopic task performance. *Surg Endosc* 1999; 13: 371-5.
18. Cresswell AB, Macmillan AIM, **Hanna GB**, Cuschieri A. Methods for improving performance under reverse alignment conditions during endoscopic surgery. *Surg Endosc* 1999; 13: 591-4.
19. Emam TA, Frank TG, **Hanna GB**, Stickham S, Cuschieri A. Rocker handle for endoscopic needle drivers: technical and ergonomic evaluation. *Surg Endosc* 1999; 13: 658-61.
20. Cuschieri A, Lezoche E, Morino M, Croce E, Lacy A, Toouli J, Faggioni A, Riberio VM, Jakimowicz J, Visa J, **Hanna GB**. EAES multi-centre prospective randomised trial comparing two-stage versus single-stage management of patients with gallstone disease and ductal calculi. *Surg Endosc* 1999; 13: 952-6.
21. **Hanna GB**, Cuschieri A. Influence of two and three-dimensional imaging on endoscopic bowel suturing. *World J Surg* 2000; 24: 444-9.
22. Emam TA, **Hanna GB**, Kimber C, Dunkley P, Cuschieri A. Effect of intracorporeal-extracorporeal instrument length ratio on endoscopic task performance and surgeon movements. *Arch Surg* 2000; 135: 62-5.
23. Emam TA, **Hanna GB**, Kimber C, Cuschieri A. Difference between experts and trainees in the motion pattern of the dominant upper limb during intracorporeal endoscopic knotting. *Dig Surg* 2000; 17: 120-5.
24. Emam TA, Frank TG, **Hanna GB**, Cuschieri A. Influence of handle design on the surgeon's upper limb movements, muscle recruitment and fatigue during endoscopic suturing. *Surg Endosc* 2001; 15: 667-72.
25. Francis NK, **Hanna GB**, Cuschieri A. Reliability of Dundee Endoscopic Psychomotor Tester (DEPT) for dominant hand performance. *Surg Endosc* 2001; 15: 673-6.
26. Francis NK, **Hanna GB**, Cuschieri A. Reliability of Advanced Dundee Endoscopic Psychomotor Tester for bimanual tasks. *Arch Surg* 2001; 136: 40-3.
27. Francis NK, **Hanna GB**, Cresswell AB, Carter FJ, Cuschieri A. The performance of master surgeons on standard aptitude testing. *Am J Surg* 2001; 182: 30-3.
28. Cuschieri A, Francis NK, Crosby J, **Hanna GB**. What do master surgeons think of surgical competence and revalidation? *Am J Surg* 2001; 182: 110-6.
29. Emam TA, **Hanna G**, Cuschieri A. Comparison of orthodox versus off-axis endoscopic manipulation. *Surg Endosc* 2002; 16:401-5.
30. Emam TA, **Hanna G**, Cuschieri A. Ergonomic principles of task alignment, visual display and direction of execution of laparoscopic bowel suturing. *Surg Endosc* 2002; 16: 267-71.
31. Francis NK, **Hanna GB**, Cuschieri A. The performance of master surgeons on the Advanced Dundee Endoscopic Psychomotor Tester: contrast validity study. *Arch Surg* 2002; 137: 841-4.
32. **Hanna GB**, Cresswell AB, Cuschieri A. Shadow depth cues and endoscopic task performance. *Arch Surg* 2002; 137: 1166-9.

33. Alijani A, **Hanna GB**, Ziyaie D, Burns SL, Campbell KL, McMurdo MET, Cuschieri A. Instrument for objective assessment of appropriateness of surgical bed occupancy: validation study. *BMJ* 2003; 326: 1243-4.
34. Patil PV, **Hanna GB**, Cuschieri A. Effect of angle between the optical axis of endoscope and instruments' plane on monitor image and surgical performance. *Surg Endosc* 2004; 18:111-4.
35. Ahmed S, **Hanna GB**, Cuschieri A. Optimum angle between shaft and handle for laparoscopic bowel suturing. *Arch Surg* 2004; 139: 89-92.
36. Alijani A, **Hanna GB**, Cuschieri A. Abdominal wall lift versus positive-pressure capnoperitoneum for laparoscopic cholecystectomy: randomised controlled trial. *Ann Surg* 2004; 239: 388-94.
37. Alijani A, **Hanna GB**, Band M, Struthers AD, Cuschieri A. Cardiovascular autonomic function in patients with haemodynamic instability at induction of capnoperitoneum: case-control study. *Surg Endosc* 2004; 18: 915-8.
38. Mishra RK, **Hanna GB**, Brown SI, Cuschieri A. Optimum shadow-casting illumination for endoscopic task performance. *Arch Surg* 2004; 139: 889-92.
39. Brown SI, White C, Wipat K, **Hanna GB**, Frank TG, Cuschieri A. Characterising the "Gold Standard" image for laparoscopic surgery. *Surg Endosc* 2004; 18:1192-5.
40. Tang B, **Hanna GB**, Joice P, Cuschieri A. Identification and categorization of technical errors by observational clinical human reliability assessment (OCHRA) during laparoscopic cholecystectomy. *Arch Surg* 2004; 139: 1215-20.
41. Geryane M, **Hanna GB**, Cuschieri A. Time motion analysis of theatre time utilisation during laparoscopic cholecystectomy by specialist registrars. *Surg Endosc* 2004; 18: 1597-600.
42. Tang B, **Hanna GB**, Bax NMA, Cuschieri A. Analysis of technical surgical errors during initial experience of laparoscopic pyloromyotomy by a group of Dutch paediatric Surgeons. *Surg Endosc* 2004; 18: 1716-20.
43. Patil PV, **Hanna GB**, Frank TG, Cuschieri A. Effect of fixation of shoulder and elbow joint movement on the precision of the laparoscopic instrument manipulations. *Surg Endosc* 2004; 19: 366-8.
44. Tang B, **Hanna GB**, Cuschieri A. Analysis of errors enacted by surgical trainees during skills training courses. *Surgery* 2005;138: 14-20.
45. Song C, Alijani A, Frank TG, **Hanna GB**, Cuschieri A. Abdominal wall motion in laparoscopic surgery. *Surg Endosc*. In press.

Review articles

46. Frank TG, **Hanna GB**, Cuschieri A. Technological aspects of minimal access surgery. *Proc Instn Mech Engrs* 1997; 211: 129-43.
47. **Hanna GB**, Drew T, Cuschieri A. Technology for psychomotor skills testing in endoscopic surgery. *Semin Lap Surg* 1997; 4: 120-4.
48. **Hanna G**, Cuschieri A. Image display technology and image processing. *World J Surg* 2001; 25: 1419-27.
49. Cuschieri A, **Hanna GB**, Francis FK. Psychomotor ability testing and human reliability analysis in surgical practice. *Min Invs Ther & Allied Technol* 2001; 10: 181-95.

50. Hanna GB, Elammas M, Cuschieri A. Ergonomic of hand-assisted laparoscopic surgery. *Semin Lap Surg* 2001; 8: 92-5.

Book chapters

51. Cuschieri A, Hanna GB. Surgical competence, training and privileges. In: Hobsley M, Treasure T, Northover J (Eds). *Current Surgical Practice; Laparoscopic surgery: the implications of changing practice.* London: Arnold, 1997: 21-42.

52. Hanna GB, Kimber C, Cuschieri A. Ergonomics of task performance in endoscopic surgery. In: Bax, Najmaldin, Valla, Georgeson (Eds). *Endoscopic Surgery in Children.* Berlin: Springer, 1999: 35-48.

Short articles

53. Hanna GB, Holdsworth RJ, McCollum PT. Pseudoaneurysm of the profunda femoris artery following orthopaedic procedures. *Injury* 1994; 25: 477-9.

54. Hanna GB, Byrne D, Townell N. Right-sided varicocele as a presentation of right renal tumours. *Br J Uro* 1995; 75: 798-9.

55. Hanna GB, Joypall BV, Welldon NM, Crosthwait G, Cuschieri A. Post traumatic pericardial syndrome following oesophageal surgery. *J R Coll Surg Edinb* 1995; 40: 395-6.

56. Frizelle FA, Hanna GB. Pelvic abscess following laparoscopic appendectomy. *Surg Endosc* 1996; 10: 947-8.

57. Hanna GB, Frizelle FA. Lymphoma of the appendix. *G Chir* 1997; 18: 219-21.

58. Alijani A, Hanna GB, Cuschieri A. Use of transoesophageal doppler ultrasound during laparoscopic anterior fundoplication. *Anaesthesia* 2000; 55: 821.