



**Increasing specialisation, more part time working, professional insularity, and the death of generalism have led to a collusion of anonymity in the NHS Des Spence, p 41**

# Mental visualisation may help surgeons in training

**Sonal Arora**

**T**op athletes need more than purely physical training. To be at your peak requires mastery of motor skills and mental endurance and the ability to manage distractions, the media, and the weight of public expectations. The tasks that elite athletes face are in some ways similar to those faced by clinicians performing interventional procedures, especially surgeons. They too require mastery of complex fine and gross motor skills that take long, arduous hours to perfect. Both athletes and surgeons must maintain intense mental concentration, often for long periods of time, under high pressures and in circumstances that are rarely routine. Given these similarities, what can clinicians learn from the preparation and training of athletes?

One technique that we might consider is athletes' use of mental practice—that is, the cognitive rehearsal of a task in the absence of physical movement.<sup>1</sup> This mental visualisation of the successful execution of the task in the mind's eye is used worldwide by athletes to improve sporting outcomes. It is postulated that mental practice reduces anxiety and focuses attention, leading to superior physical performance for athletes,

golfers, tennis players, as well as musicians and dancers.<sup>2-3</sup> Despite being simple, inexpensive, and available to all, this strategy is rarely studied by clinicians in training, who rely instead on a model of apprenticeship. Although this is changing, with reduced hours and concerns for patient safety, alternative methods such as simulation are yet to win widespread acceptance, partly because of the cost.<sup>4</sup>

Healthcare research has led to the development of mental practice scripts that go beyond the simple procedural steps traditionally described in textbooks.<sup>5</sup> Instead, these scripts contain detailed cues that help the learner to mentally visualise actual movements related to the task. Evidence suggests, just as in sport, that this mental imagery leads to better clinical performance. This improvement in performance is confirmed by randomised controlled trials showing that learners exhibit superior technical skills after a short period of mental practice whether performing tasks such as simple suturing<sup>6</sup> and cystoscopy<sup>7</sup> or complex laparoscopic cholecystectomies.<sup>8</sup> Importantly, because excessive stress can worsen performance and increase error, mental imagery also reduces stress and performance

anxiety in practising physicians and medical students.<sup>9</sup> In fact, mental practice makes more cognitive resources available for dealing with the demands of the operating theatre. These benefits have been described by investigators on both sides the Atlantic, suggesting that they may be independent of culture or context.<sup>9-10</sup>

So how can we use these strategies to improve our practice? First, the routine use of mental practice could be incorporated into the everyday clinical setting to prepare for upcoming cases. Whether in the coffee room or scrubbing for a procedure, mentally visualising yourself performing a task before execution is a cost efficient and time efficient means of improving skill. It can also help in the acquisition and refinement of more elusive competencies such as judgment and decision making; for example, a trainer and trainee who mentally visualise a procedure together and then discuss it might identify gaps in knowledge, and contingency strategies used by experienced surgeons might be made explicit to their junior counterparts. Mental practice could thus lower anxiety and maximise learning in the workplace, especially for trainee surgeons.<sup>9</sup>

It is important to note that the aim for surgeons is not to win, as it is for athletes, but rather to be competent and safe in every procedure performed. However, in the light of evidence suggesting that mental practice combined with physical practice tends to produce superior skill learning than that from either mode alone,<sup>1</sup> mental practice could be used as an adjunct to physical or simulation based training in all specialties. This may help accelerate the learning curve, hinder skills decay, and maximise this valuable resource.

Incorporating mental skills training into current medical curriculums could teach trainees at an early stage how to maximise its benefits, improving acquisition and retention of skills, minimising the deterioration of performance under stress, and ultimately lead to safer care.

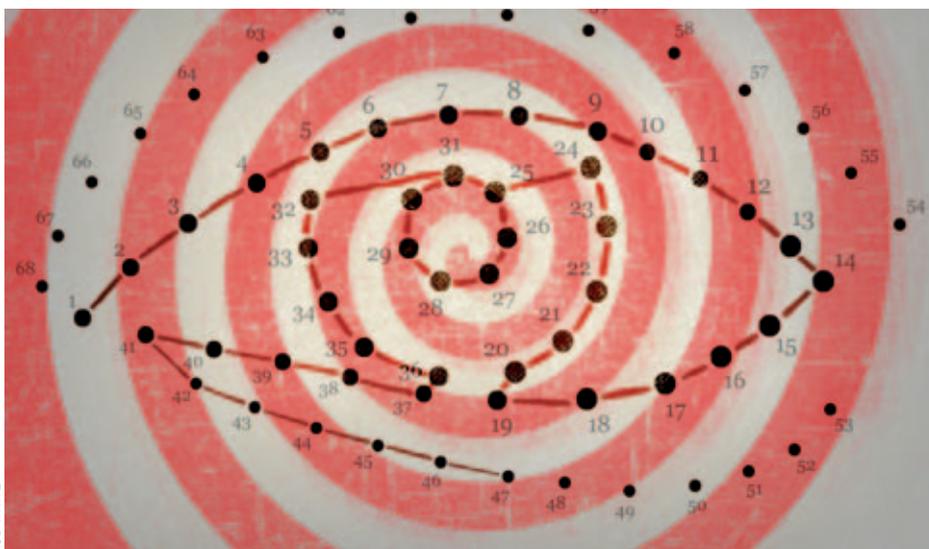
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FROM THE FRONTLINE **Des Spence**

## A conspiracy of anonymity

“How do you think of something to write every week?” someone asks. Someone else helpfully replies for me: “He doesn’t. He just rearranges the same one.”

Many a true word said in jest. But the themes of medicine are constant in time and geography. They are important but abstract and are completely ignored in medical education: doctoring is about reading people, knowing when to listen and act but also knowing when not to listen and not to act. At its core, doctoring is the willingness and requirement to accept responsibility.

Michael Balint’s concept of “the collusion of anonymity” is about medical responsibility. When many people or agencies are involved in care then responsibility becomes fractionated. The more professionals involved the more fractionated it becomes. Everyone is involved but no one is responsible, and the buck stops nowhere. Traditionally this was



**Now the collusion of anonymity infects general practice. Continuity is a broken, forgotten, rusting hulk**

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considered a problem from the 1950s, when patients became anonymous after they were admitted to hospital.

But this is a bigger problem today, and now the collusion of anonymity infects general practice. Continuity is a broken, forgotten, rusting hulk for simple reasons. General practitioners are opting out of weekend and out of hours duties, with part time work becoming the norm. This is increasing the total numbers of general practitioners. They simply know their patients less well. The coming corporatisation of general practice will see continuity all but washed away.

Hospitals have the same difficulties but an additional problem too. The vast archipelago of new specialties (medical and nursing) comprises small, separate, distant islands with fiercely insular medical tribes. And despite huge expansion in consultant numbers, regrettably they seem no more accessible. More resources, paradoxically, have made the problem worse.

Generalism has been dismissed as inferior, has been left fatally undermined, and is dying, if not already dead. Anything encountered that is outside the modern telescopic specialist training programmes results in referrals to other specialties, choking the system in needless referrals. But we can’t blame modern medicine, because it only reflects modern society, which is risk averse, unable or unwilling to accept uncertainty, and left in a paralysis of indecision. There has been a homeopathic dilution of medical responsibility, and patients are increasingly anonymous and faceless in the NHS.

The goal of personalised care is but a delusional myth. Today there is no mere collusion but a systematic conspiracy of anonymity. This demonstrates another medical truism: developed societies get the health systems they deserve. So how do we make it better?

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IN AND OUT OF HOSPITAL **James Owen Drife**

## Talented oldsters

Near my former office is a blue plaque commemorating the Braggs, father and son. In 1913 William Bragg, professor of physics at Leeds, built a spectrometer after his student son Lawrence had a flash of insight into the nature of x rays. Together, “working furiously all through the summer,” they founded the science of x ray spectroscopy.

Two years later they won the Nobel prize. Lawrence was 25 and remains the youngest ever laureate, though four other physicists have won at the age of 31. Albert Einstein, who received his prize at 33, reportedly once said, “A person who has not made his great contribution to science before the age of 30 will never do so.” If he said that, he was wrong. William Bragg had been an inspiring teacher, but his research career did not begin until he was over 40. And the stereotype of youthful brilliance has changed. The average age

of those who win a physics Nobel prize is now 66, and the big ideas no longer come early. A recent analysis concluded that “great achievement by age 40 occurs in only 19% of cases.”<sup>1</sup>

Medicine is no different. Frederick Banting, discoverer of insulin, was 32 when he won in 1923, but John Gurdon, the 2012 prize winner, is 79. The mean age of those who make major discoveries in medical science, according to the analysis, is 50. This seems to apply not only to laureates like Robert Edwards, the pioneer of in vitro fertilisation, who was 53 when the first test tube baby was born, but also to others like Ian Donald, who was aged 48 when his seminal paper on ultrasound was published.

Nevertheless, doctors still tend to regard research as a youthful phase, like puberty, that we pass through on our way to becoming well rounded



**Doctors still tend to regard research as a youthful phase, like puberty, that we pass through on our way to becoming well rounded practitioners**

practitioners. Listening to students or trainees talking about their work is a stimulating experience, but few established doctors have the chance to do so now that the orbits of consultants and trainees rarely coincide.

In recent years NHS research has been transformed from a cottage industry into a vibrant organisation, the National Institute for Health Research, which, as I just discovered at its annual trainees meeting, nurtures talented youngsters. What about talented oldsters, I wonder? Are there medical William Braggs who missed out but want a research life after 40? Without their Lawrence-like registrars, is there a way to engage them?

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