

## Caught in the Spotlight

# 2

Strategies for that Situation Where the Question is Very Challenging and You Feel Like a Rabbit Caught in the Glare of the Headlights



*Opium Poppy Pod (Papaver somniferum)*

*In critical and baffling situations it is always best to recur to first principles and simple action.*

(Winston Churchill, 1951)

This chapter considers that alarming situation where the candidate is faced with a written question, clinical scenario or actual long/short case, hitherto not encountered. They just do not have a clue? The critical strategy is to stay calm and alert, use all the senses of observation, description and logic to identify the broad category of

what is the issue/problem/diagnosis? Jack Penn (1909–1996) and his son John Penn [1], both South African plastic surgeons wrote a paper in 1993 about generational differences and surgical principles, in which they concluded:

*Basic principles last forever.*

*Simplicity is essential for well-planned and executed surgery.*

*Plastic surgery competence requires good taste and judgement.*

*There is nothing new under the sun.*

*The plastic surgeon is the composer and the virtuoso.*

Dr. Jack Penn trained under the mentorship of Sir Harold Gillies, Archibald McIndoe, Rainsford Mowlem and Pomfret Kilner during the Second World War. He returned home to lead early plastic surgery in South Africa, where he established the Brenthurst Military Hospital for the plastic and reconstructive rehabilitation of the war wounded.

One of Sir Harold Gillies' first principles was *Observation is the key to surgical diagnosis*. His second principle, developed on the experience of thousands of war wounds, was *Diagnose before you treat*. These two principles are the starting points for when you are faced with a baffling situation. Keep it simple: what is the question really asking, what am I looking at here, what are the priorities? These are the questions that should automatically scroll through your consciousness. A candidate who is conversing during the viva voce is one who impresses the examiners.

The quiet candidate may in fact be a silent thinker, predisposed to this by their intrinsic character. The risk and reality, however, is that this comes across to the examiners as the ignorant candidate.

Remember that the examiner's concentration is peaking at the commencement and the final stages of the exam interaction. This was mentioned as the performance/arousal curve in the previous chapter. You should aim to start well and finish well. The concentration of the examiners will tend to wane during the middle of the session, they are human! A confident candidate will articulate their thoughts as they progress.

At the commencement of the Auckland FRACS Course for plastic surgery in 2015, I told the assembled group of candidates that they were the most inventive, creative, artistic and dedicated surgical trainees around. These are the young doctors we select for our advanced surgical programmes in Plastic & Reconstructive Surgery. Compliments are potentially encouraging but increasingly, the cohorts of trainees presenting for the coaching course require a wake-up call. I usually achieve this by telling them that when I was at their stage of career nearly 30 years ago, I failed the final fellowship exam twice ... and I am still having nightmares about it. I wait for about five full seconds, see the blood drain from their faces and then add; 'just kidding!'

Encouragement and fear, nurturing and discipline, knowledge and experience, self-confidence and self-belief—these are the tools that we use to prepare the candidates for success in their professional exams.

**Fig. 2.1** Mock question regarding breast reconstruction, in a 33-year-old woman after left mastectomy for invasive ductal carcinoma and staged reconstruction with tissue expansion and a latissimus dorsi flap



A number of mock (practice) and real exam scenarios experienced over the years come to mind.

The first is a mock question I set detailing the history of a 33-year-old woman, a marine biologist who presented with diffuse left breast ductal carcinoma in situ and a small focus of invasive carcinoma (Fig. 2.1). She had a full left mastectomy as advised by her breast surgeon and a year later was referred for consideration of breast reconstruction. Because of her wishes and lack of spare abdominal tissue, she underwent a staged left breast mound reconstruction with a latissimus dorsi myocutaneous flap over a tissue expander and once overexpansion had been achieved, a matched anatomical cohesive gel implant was inserted into the subpectoral-latissimus pocket. At this stage, she was 2 years post-breast cancer diagnosis and wanted to return to her career overseas. *She was very clear that she did not want a nipple–areolar reconstruction for the left side nor any modifications to the moderately ptotic contralateral normal breast.* Images of her pre-reconstruction and current reconstruction appearance were displayed. The question then asked the candidate: *Please discuss?*

This question based on the clinical scenario of one of my own patients has become a very reliable indicator of whether the candidate reads the question and answers it appropriately within context. Approximately, 90% of SET 5 registrars, preparing for the FRACS (Plast) final fellowship exam in the last 2 years, have failed it. They predictably launch into a long discussion of the imperfections of her left breast reconstruction, the asymmetry compared to the right moderately ptotic breast, the absence of the nipple–areola complex on the reconstructed left breast mound, the contour deficit in the lateral chest donor site and the scars. This is usually followed by an exhaustive list of possible further options including various free perforator flaps, fat grafting and mastopexy techniques.

The attentive, focused candidate, who has read the question carefully over and over, soon realises that this is not a question about breast reconstruction techniques. It is about listening to our patients, understanding their wishes, seeing the problem

from their perspective and involving them in the team discussion, decisions and surgical planning. There is a raft of psychological research from Breast Cancer Care Teams that younger women with the challenge of breast cancer are more likely to worry about: breast cancer local recurrence, disease-free intervals and long-term survival than the subtle aesthetics of perfect breast symmetry, absence of the nipple–areola complex or absolutely matching inframammary fold levels. The patient in question was more concerned about returning to marine biology pursuits, getting married to her fiancé, having children, seeing them grow up and mature .... Being around to see them graduate, become adults, live fulfilling lives and more.

When the senior author was in practice, he used to tell breast reconstruction patients that the appearance of a reconstructed breast was never perfect. The minimum result was to have the shape and size equal to the opposite breast when wearing a bra. Most patients are accepting of these limitations and are more concerned with the oncological implications.

Mostly, the written questions will be more surgically focused, e.g. *Compare and contrast the surgical options for women with breast cancer presenting with normal versus high body mass indexes?* It is very helpful to the candidate and indeed the marking examiner, for a plan to be transcribed for the answer. This can be in bullet-point form, a series of headings, a diagram of interconnecting shapes (like an algorithm) or a concise summary as you would read in the abstract of a paper on a conference programme or published journal. The plan is the blueprint for your answer and shows the examiner that you have thought about it in a logical and constructive way (Fig. 2.2).

If you do not have a clue what the question is really about or what your answer should be, your plan could develop some intuitive lines of thought. What is the



**Fig. 2.2** Suggested plan for a model answer

differential diagnosis here? Are the management options critical from a timing perspective? Are there options that may be considered non-surgical? Can I manage this solo or do I require help from a multidisciplinary team of experts in their field? Do I need to speak with the referring general practitioner? What family support does the patient have that may influence her treatment choices? What does the patient fear, understand or expect? An important way to start is to connect with the patient or the problem and initiate a meaningful and constructive conversation where you, the doctor, show that you care for and respect them. Sir Archibald McIndoe taught another important principle which stated: *'Connectedness with your patient equals a confident trusting patient.'*

One of the first exams I ever examined in was when I was paired with the legendary Professor Wayne Morrison for the long cases at The Royal Children's Hospital in Melbourne. The first case was a toddler accompanied by his mother and he presented with a classic case of right-hand dominant radial club hand. I was nervous and did not expect such a rare first case. In the time that the paired examiners have to review the selected cases, before the candidates arrive, Wayne and I had the opportunity to assess the young patient. This was my moment of being caught like a hare in the oncoming headlights.

This is how I coped: general inspection and enquiry to rule out any other clinical issues, family history and genetic factors. Examination of both his upper limbs together, the left upper limb being a comparison for the right radial club hand. The position of his hand attached to his forearm in the radial deviated position was the obvious deformity but it was important to establish the movement and function of his elbow and movements of his hand to his mouth. The form and function of his thumb and digits was also a critical analysis. Radiology images were also available to help define his anatomy. The next appreciation after considering the history and physical findings was the timing of surgical correction, with paediatric orthopaedic collaboration, the risks associated with this, the future function of his right upper limb and hand dexterity and conversations with the mother about her understanding, concerns and fears. I realised pretty quickly that the principles of this deformity and its management were the key and not the fact that I had never encountered a case, even in my year of advanced orthopaedic training, nearly 20 years previously!

Fortunately, most of the presenting candidates that morning approached this long case with the same *modus operandi* and were successful.

Another example of a confronting difficult case which certainly tested many candidates attempting this mock written question in 2014 is illustrated (Fig. 2.3).

*A 75-year-old retired secretary presents to your outpatient clinic with an ulcer of her left nasal vestibule. She is a chronic smoker with hypertension, atrial fibrillation and type 2 diabetes. The lesion has been present for at least 6 months and failed to respond to topical and oral antibiotics. In 60 min discuss your plan of management and likely prognosis.*

Many candidates assumed that this was a basal cell carcinoma and offered inadequate surgical resection margins. The options for reconstruction in many cases were also on the conservative side with skin grafts and local flaps suggested.

**Fig. 2.3** Nasal ulcer case, in a 75-year-old medical secretary with type 2 diabetes and a chronic smoker



My initial observation of this clinical case would suggest an aggressive, penetrating squamous cell carcinoma of the nasal septum and columella in a heavy smoker with significant medical comorbidities. The lesion is at least 15 mm in diameter, ulcerated and examination should establish the clinical staging with examination of the contralateral nasal vestibule, nasal airway and hard palate for local tumour spread. Regional lymph node drainage basins should also be examined. The tumour should be biopsied for definitive pathological diagnosis and ideally a complete excision to establish clear margins. Delayed Reconstruction After Pathological Examination (DRAPE concept of Prof Felix Behan) and further imaging with CT/MRI are also mandatory. Ideally, these complex cases should be managed in a Multi-Disciplinary Team (MDT) setting such as a combined Head & Neck Cancer Clinic. After careful and professional workup, respecting the patient's wishes, definitive wide excision left a composite defect of the columella + caudal septum + nostril sill + left nasal vestibule. This was extended to include the nasal tip aesthetic subunit in order to achieve an aesthetic staged reconstruction (Aesthetica Concept—see Klaassen, Frame and Levick). Staged reconstruction ensued over several months with a forehead flap for cover, contralateral septal mucosal flap for lining and auricular cartilage grafts for structural support. Once reconstruction was completed, an opinion for adjuvant radiotherapy was requested.

The prognosis is related to the aggressiveness and local extent of the cancer but also on this patient's physiological status with respect to cardiac, respiratory and

renal function. The issue of compliance is also relevant particularly with regard to the continuation of nicotine ingestion. Family support, socio-economic status, life expectancy and the patient's understanding of the important clinical and health issues must be considered in the doctor–patient conversations. These cases are complex for many reasons but can be summarised into what the patient really wants (usually survival and cure) and what is the appropriate management ethically, practically and realistically. Ultimately, her management was very successful and she remains healthy and well 4 years on.

Even if the candidate did not know the exact diagnosis for this case, a good start would be to verbalise and articulate their initial thoughts. State the obvious and what you see: *'This is a tumour of the nasal septum extending into the nasal tip'*. Avoid jumping into a diagnosis straight off if you are uncertain. Play for some time whilst your brain is processing all the evidence by leading the examiners in your conversation. You could be describing the detailed features and morphology of the tumour, pigmentation or lack of, show them your competent understanding of the anatomy of the particular region—the layers of structures (skin, cartilage and mucosal lining) and the associated regional anatomy (nasal airway, upper lip, paranasal sinuses, regional lymph node basins and aesthetic nasal subunits).

Even after years of clinical practice, the experienced plastic surgeon will encounter clinical problems never before seen. I work with a number of other surgical colleagues including urologists and gynaecologists. Two quite different clinical cases referred to me by them recently included a young man with Squamous Cell Carcinoma of the glans penis, associated with psoriasis, and a middle-aged woman with a lateral left flank bulge following left partial nephrectomy and complicated by irreversible damage to the left subcostal nerve. If I had been recruiting long clinical cases for a forthcoming exam, then these two challenging examples would have been ideal. Let us now consider them individually.

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## 2.1 Long Case 01: Carcinoma of the Glans Penis

*Long history of chronic psoriasis, immunosuppression and erythematous plaque-like lesions (SCC in situ) on glans penis of a young man. Recent biopsy confirmed invasive well-differentiated SCC involving 2 cm area on the dorsum of the glans. Lesion extends close to but not into the external urethral meatus. No palpable inguinal lymphadenopathy.*

This is an unusual presentation in my experience but the principles of plastic surgery define the best course of action. Collaboration with the referring urologist is ideal. The diagnosis is clear cut with available biopsy results and if the nodes are clear, (based on lymphoscintigraphy) then the TNM classification is T2, N0, M0 and the lesion is stage 1. Treatment in this situation involves a wide local excision, preservation of the urethra, aesthetic reconstruction with a full thickness skin graft and elective sentinel node biopsy. Partial resection of the glans is obviously a potentially disfiguring and very threatening reality for the patient, so counselling about the indications to achieve complete local excision and immediate aesthetic

reconstruction is important. There will be tissue missing so replacement is an important reconstructive consideration. A thick split skin graft or thin full thickness skin graft will provide the most durable cover, rather than a preputial flap (if he is uncircumcised). There will be the need to bypass the urine stream with an indwelling catheter, whilst vascularisation of the skin graft is occurring over the first 5–7 days. Immobilisation of the graft with a tie-over dressing and medications to suppress nocturnal penile erections should also be considered. The question of more radical surgery such as distal penectomy could be mentioned but the favourable histology reported probably favours less radical resection (partial dorsal glansectomy) and functional preservation. In the medium term, the consideration of distal meatal stenosis could be predicted and serial dilatations required to prevent urinary flow obstruction.

### 2.1.1 Guiding Principles Case 01

*Diagnosis*

*Staging*

*Complete Local Excision + Aesthetic Reconstruction (CLEAR)*

*If CLEAR not possible, then Delayed Reconstruction After Pathological Examination (DRAPE)*

*Consideration of complications—perioperative, early and late*

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## 2.2 Long Case 02: Lateral Abdominal Hernia

*Middle-aged woman referred by her urologist with a lateral abdominal bulge for 5 years following partial left nephrectomy for an oncocytoma. She is self-conscious of it despite her otherwise high body mass index and wants to have her abdominal contour restored to 'normal'. She also experiences back pain which she associates with the lateral abdominal bulge.*

An upper lateral abdominal hernia secondary to partial nephrectomy and subcostal nerve injury is rare. The commonest complications from this type of surgery could be infection, haemorrhage, transient ischaemia associated with this technique and renal insufficiency. Damage to the left subcostal nerve is either overt during the sharp dissection or more likely from traction by the wound retractors. Examination of the patient in the reclined and upright postures reveals at least a 10 × 10 cm muscular weakness in her left abdominal wall associated with a positive cough reflex. Palpation should also reveal any pulsatile mass. It would be appropriate to consider the relevant anatomy, aware of anatomical anomalies and associated structures. The subcostal nerve is derived from the anterior ramus of the 12th thoracic nerve, which travels through the abdominal musculature to innervate external oblique and rectus abdominis. Its sensory innervation is to the skin lateral to the ASIS (anterior superior iliac spine) of the pelvic brim. These are easily tested by examination. Associated



neighbouring nerve structures could be mentioned to demonstrate your anatomical knowledge viz. the iliohypogastric (T12-L1), ilioinguinal (L1) and genitofemoral (L1-L2) trunk nerves. The status of her renal tumour is of some importance. What is the risk of recurrence and is there potential for other oncocytomas? This is a benign tumour of epithelial cells occurring in the kidney and the conservative approach of partial nephrectomy to spare nephrons and avoid chronic renal insufficiency is the treatment of choice. Conversations and collaboration with the patient's urologist would be mandatory in regard to any future surgery such as hernia repair. Oncocytomas can occur in any organ and may have a premalignant potential. The management of her flank hernia depends on a preanaesthetic workup, radiological imaging and dietary advice to reduce her high BMI to a level that is compatible with safe elective surgery.

Repair of the abdominal hernia needs to consider the following options:

1. Direct previous incision approach versus midline approach.
2. Extraperitoneal dissection and delineation of the hernia boundaries.
3. Repair with alloplastic (mesh) or autogenous (musculofascial) methods.
4. Postoperative management early and medium-term to protect the repair and maximise respiratory function (risk of raised intra-abdominal pressure).
5. Combined surgical approach of urological & plastic surgeons.

I personally favour the use of autogenous tissues for repair if possible and avoidance of mesh or similar foreign bodies. The availability of external oblique fascia, fascia lata grafts from her thighs and pedicled muscular flaps such as a reverse latissimus dorsi flap could all be considered in the surgical plan.

### 2.2.1 Guiding Principles Case 02

*Defining the status of her tumour, risk of recurrence and associated tumours.*

*Imaging of the left lateral retroperitoneal hernia with MRI or CT.*

*Planning a repair via a midline approach, extraperitoneal dissection.*

*Deciding which autogenous musculofascial tissues are available locally for strong repair of the hernia with or without mesh.*

*Careful anaesthetic workup for perioperative care and post-operative recovery.*

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## 2.3 Summary: Caught in the Spotlight

1. Read, listen and understand the questions.
2. Always define the diagnosis—*diagnose before your treat.*
3. Consider the diagnostic ladder: *Congenital, Traumatic, Neoplastic, Metabolic, Inflammatory (CTNMI).*
4. Have a plan and some options—*make a plan and a pattern.*

5. Fall-back position is first principles and simplicity.
6. Define the relevant anatomy.
7. Always have a plan B—*have a lifeboat*.
8. Consider the trilogy—*what could I do, what do I want to do and what should I do?*
9. If there is a less complex option, choose it.
10. Seek help—*ask colleagues for second opinions*.
11. Do not let routine method become your master—*Gillies*.
12. Do not be afraid to be bold, take responsibility for the surgical challenge and do what is in the best interests of the patient and their family.
13. Embrace the challenge of this ‘dark place’, stay calm, composed and focused.

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## Reference

1. Penn JG, Penn J. Reflections on two generations in plastic surgery. *Plast Reconstr Surg.* 1993;91(4):718–9.