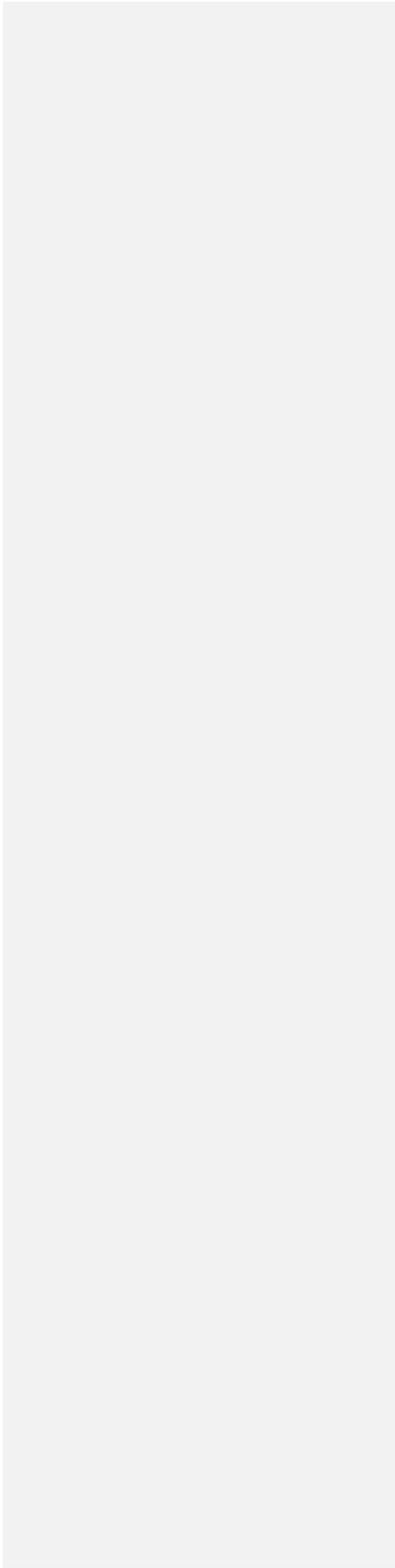


**MFOM Ireland Casebook**



## **Declaration**

I declare that this dissertation consisting of 20,502 words [including headings, declaration] and 96 pages is all my own work.

Where I have relied on the work of other people, I have acknowledged this according to the normal academic conventions.

I understand that my dissertation may be subject to electronic scrutiny.

I consent to the publication of an abstract or abstracts on the Faculty's website.

Signed:

## **Clinical Case One**

### Background to the Referral:

A 40-year-old male Information Technology (IT) Analyst was referred because of recurrent lateness, observed afternoon sleepiness and variable quality of work over the preceding 4 months. He was being managed according to disciplinary policy but performance had not improved.

### Occupational History:

Employed by the company for six years, his work was office-based, mostly using a computer. He did not perceive any work-related stress, had a positive working relationship with his colleagues and an average sickness record. No colleagues exhibited similar symptoms. There was no solvent exposure or secondary employment.

### Presenting Problem and Medical History:

Over the preceding year he found waking up increasingly difficult, frequently sleeping through his alarm. Particularly sleepy after lunch, he often napped at his desk. Strong coffee and a brisk walk during his lunch break failed to help. He retired to bed at a reasonable time, avoided caffeinated beverages from early evening.

He often felt sleepy at the wheel of his car going home.

There was no significant past medical history and he took no medication. Overweight since leaving school, he had gained “quite a bit” over the preceding 2 years. He confirmed snoring heavily.

He had never smoked tobacco nor taken recreational drugs and drank an average of 15 – 20 units alcohol per week. He took little exercise but was socially active.

His gas central heating system at home was serviced regularly. A carbon monoxide detector (functioning) was present.

Clinical Examination:

Significantly overweight for his height with a Body Mass Index of 38 Kg/M<sup>2</sup> (obese), he had a short “thick” neck. Blood pressure was elevated in both arms at 165/95. Examination was otherwise unremarkable.

Urine examination (dip stick) was clear.

He was cognitively unimpaired on mental state examination, scored well using a sleep hygiene questionnaire<sup>1(p20)</sup> but scored 15/24 on the Epworth Sleepiness Scale (ESS)<sup>2</sup>.

Diagnosis:

Obstructive Sleep Apnoea (OSA) was the most likely diagnosis supported by an ESS score of 15 [ $>11$  supports a diagnosis of OSA]<sup>2</sup>

Advice & Communication:

Diagnosis, health risks, investigations, treatment and prognosis of OSA were discussed with the employee. The OSA-associated 2 – 3 fold increase in risk of driving-related accident was emphasized<sup>1(p14)</sup>. His legal duty to stop driving and contact the Driver Vehicle and Licensing Authority (DVLA) for assessment of his fitness to drive was explained.

I advised that referral for sleep specialist assessment was indicated and with consent wrote to his General Practitioner (GP).

Management was informed of the likely diagnosis of a sleep disorder, its potential impact on his work and the need for expert assessment. His increased risk of accident was highlighted and a risk assessment of his role advised. His duty to contact the DVLA and my advice to stop driving was explained.

I opined that, with treatment, he would likely be able to render satisfactory attendance and performance in the future. Fitness for work in his contracted role was confirmed but his ongoing risk of accident, lateness, daytime sleepiness and reduced performance until assessed and treated was emphasized. Guidance on a time frame

for effective treatment was difficult to provide as much depended upon local NHS waiting list size.

Legal context:

There is a legal duty<sup>3,4,5</sup> placed upon all licensed vehicle drivers in the U.K. to advise the DVLA of any past, a worsening of any current or new medical condition or disability which may affect the ability to operate the vehicle safely. It is for the DVLA's Medical Advisers to determine an individual's fitness to drive.

There is a duty on physicians<sup>6(p 4), 7</sup> to ensure patients understand they have a condition which could impair their ability to drive and to advise them of their duty to inform the DVLA about the condition.

Management Response:

Management authorized private medical referral. This was discussed with the employee and his GP made the arrangements.

Progress:

Sleep studies confirmed OSA.

Nighttime Continuous Positive Airways Pressure (CPAP) was prescribed, and life style changes recommended.

One month after commencing CPAP treatment he was significantly less fatigued (ESS 6) with minimal daytime sleepiness reported. He was able to reliably attend work and a positive change in his performance was reported.

The DVLA reinstated his driving license after 3 months subsequent to a satisfactory specialist report that his condition was under good control.

Discussion:

Ethically letters to employers should concentrate on functional advice and protect the employee's right to confidentiality<sup>8,9</sup>. I believed there would be benefit in disclosing a diagnosis of sleep disorder. Informed consent was gained for this purpose.

OSA (4% men, 2% women in the U.K.) can affect anyone but is commoner in middle-aged men, is associated with obesity and neck size. It is a serious medical condition as if left untreated it increases the risk of stroke, heart diseases and diabetes<sup>10 (p112)</sup>. It contributes to hypertension, depression and cognitive impairment. It is associated with reduction in work performance and increased risk of accident. Effective treatment is available particularly when combined with lifestyle changes.

With the rapid increase in the prevalence of obesity in our society (30% men, 50% women in the U.K.)<sup>11</sup>, it is probable that OSA is impacting a significant percentage of the workforce and is likely under-diagnosed.

This case was classical in presentation affecting the archetypal OSA sufferer and diagnosis was straightforward. Many cases of OSA however are more subtle and a high index of clinical suspicion, the use of appropriate screening tools combined with employee education to promote greater awareness, particularly when assessing employees with poor performance, concentration difficulties, memory impairment and/or symptoms of depression – all common problems encountered in occupational health practice.

Specific advice regarding the applicability of the Disability Discrimination Act 2005<sup>12</sup> was excluded from the medical report. Company Policy advised it was the responsibility of the legal department to assess whether the Act applied. It is my opinion that the Act would apply in this case. Whether an employee is disabled and falls within the definition of the Act is a legal question for an employment tribunal. If it is appropriate to comment on qualification under the DDA, the report should set out whether there is an impairment, the effect on normal day-to-day activities, and how long it is likely to last. Adjustments that could enable the employee to do the job may also be recommended, despite the disability. The latter is good employment practice even when the DDA does not apply<sup>13</sup>.

### Clinical Case One References:

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1. International Association of Oil & Gas Producers. OGP-IPIECA Health Committee: *Managing fatigue in the workplace – A guide for oil & gas industry supervisors and occupational health practitioners*; OGP report no. 392 2007.
  2. Johns MW. *A new method for measuring daytime sleepiness: the Epworth sleepiness scale*. *Sleep* 1991 14:540-5
  3. *European Community Directive on driving licenses (91/439/EEC)* 1991
  4. United Kingdom: *The Road Traffic Act 1988* [[www.opsi.gov.uk/legislation/](http://www.opsi.gov.uk/legislation/)]
  5. United Kingdom: *The Motor Vehicles (Driving Licenses) Regulations 1999* [[www.opsi.gov.uk/legislation/](http://www.opsi.gov.uk/legislation/)]
  6. United Kingdom: Driver and Vehicle Licensing Agency. *For Medical Practitioners – At a glance Guide to the current Medical Standards of Fitness to Drive: Drivers Medical Group DVLA Swansea* [[www.dvla.gov.uk/medical/ata glance.aspx](http://www.dvla.gov.uk/medical/ata glance.aspx)]
  7. United Kingdom: General Medical Council Guidance for Doctors. *Confidentiality: Protecting and Providing Information FAQs no. 17* [[www.gmc-uk.org/index.asp](http://www.gmc-uk.org/index.asp)]
  8. United Kingdom: General Medical Council. *Good Medical Practice*. London: GMC, 2001.
  9. United Kingdom. Faculty of Occupational Medicine. *Guidance on ethics for occupational physicians*. May 2006.
  10. Palmer KT, Cox RAF, Brown I, editors. *Fitness for Work - The Medical Aspects*. 4<sup>th</sup> ed. Oxford University Press 2006.
  11. United Kingdom: Office for National Statistics. National Statistics Online. *Obesity among adults: by sex and NS-SeC, 2001: Social Trends 34* [[www.statistics.gov.uk/default.asp](http://www.statistics.gov.uk/default.asp)]
  12. United Kingdom: *The Disability Discrimination Act 1995/2005* [
  13. Kloss D (2005). *Occupational Health Law (4<sup>th</sup> ed)*. Blackwell Science, Oxford.

## **Clinical Case Two**

### Background to Referral:

A 63-year-old man receiving ill health pension benefits attended for routine triennial health assessment required by his pension scheme. Continued payment of benefits was dependent upon confirmation of continuing incapacity due to ill health preventing him from any substantive employment.

### Occupational History:

He was a Quantity Surveyor employed for 28 years by the same company. His role was active and varied, divided between office and site-based work.

Six years prior he developed end-stage renal failure secondary to rapidly progressive acute glomerulonephritis. He worked for the first year after diagnosis but significant symptoms of fatigue and cognitive impairment resulted in long-term sickness absence and ill health retirement.

### Medical History:

He had received a renal transplant since last medical review. Haemodialysis was no longer required. His renal function and full blood count were within normal parameters. His energy levels had improved and he felt well, with no symptoms other than mild fatigue.

He was able to perform all normal day-to-day activities<sup>1</sup>, usually taking a nap after lunch.

His blood pressure was resistant to control and averaged 165/95. He took anti-hypertensive and anti-rejection medication experiencing few side effects and no apparent increased incidence of infection.

He had remained psychologically robust during his illness and after transplant, slept well, his weight was steady and he was not unduly breathless on exercise.

He was a life long non-smoker and drank < 10 units alcohol per week. He was active on his computer and had a good working knowledge of commonly used computer software programmes.

He had an active social life often visiting friends and hosting a dinner party at least monthly.

His driving license was unrestricted, limiting himself to trips of 3 hours due to fatigue.

Clinical Examination:

He appeared well, was euthymic and cognitively unimpaired scoring 30/30 on Mini Mental State Examination<sup>2</sup> (App.7 p907). An arteriovenous fistula was noted at the right wrist.

Mildly raised blood pressure, a 12 cm curved abdominal surgical scar and the mass of the donor kidney in the right iliac fossa were noted.

Opinion:

Renal transplant had improved his quality of life and functional abilities. He was able to perform all activities of daily living, play golf, was cognitively unimpaired and suffered only mild fatigue.

Sight of recent blood test results confirmed normal renal function and blood count.

I considered that subsequent to renal transplant his health had significantly improved and he had the capacity to undertake meaningful work subject to appropriate reasonable adjustments.

Communication:

Advised of my opinion he expressed concerns regarding his confidence and ability to return to work at the age of 63 years, particularly after a 4-year absence from the workplace. My role and obligation to provide an independent medical report describing current health status and functional abilities was emphasised<sup>3</sup>.

With consent I requested medical reports from his general practitioner and renal specialist. These confirmed good health and functional improvement.

My report to the Pension Fund Trustees advised of a positive change in health and functional abilities sufficient, on balance of probabilities, to allow him to undertake adjusted work. His transplant was stable and statistically would likely remain so until retirement age was reached (2 years)<sup>4</sup>. Coverage under the Disability Discrimination Act 1995/2005<sup>1</sup> was advised as likely and his impairments (fatigue) described. His increased risk of infection, diabetes and malignancy<sup>5</sup> due to the combination of anti-rejection drugs was indicated, as was his potential risk of increased absence when compared to his peers. Potentially challenging non-medical and psychosocial barriers to vocational rehabilitation and return to work were explained (length of time out of work, his age and loss of confidence, deskilling and deconditioning) and the benefit of a tailored phased and graduated rehabilitation programme emphasised.

#### Discussion:

Familiar with the role and responsibilities of an occupational physician advising on permanent incapacity and ill health retirement to the trustees of pension schemes<sup>3</sup> (p20-22), this was the first case in my experience where I was required to advise on continuing incapacity without recourse to the applicable pension scheme rules and criteria. Here I was simply requested to advise whether there had been any change in health, which might allow a return to any work. Uncertain about this, prior to meeting with the employee I sought the guidance of a senior colleague, whose advice helped put my duty and role in context. I was reminded of the specific request to identify capability for “any” work due to change in health status. Eligibility under the pension scheme rules for payment of benefits was a pension scheme trustee decision. My principle duty was to the trustees who would make benefit decisions based upon objective medical advice.

In retrospect, the amount of information I provided in my report may be considered excessive when compared to what was requested, but I believe the information and opinion provided was pertinent to helping the decision making process.

I believe this case demonstrates the value of seeking learned council early as good medical practice<sup>6</sup>.

Learning Points:

I was struck how a request for seemingly straightforward advice can at times be perceived as unclear or complicated. In future I will talk with the referring person to ensure both parties agree on what information is appropriate and helpful.

**Clinical Case Two References:**

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1. United Kingdom: The Disability Discrimination Act 1995/2005. *Paragraph 4, Schedule 1*
  2. Smedley J, Dick F, Sadhra S, editors. *Oxford Handbook of Occupational Health*. Oxford University Press 2006.
  3. United Kingdom. Faculty of Occupational Medicine. *Guidance on ethics for occupational physicians*. May 2006.
  4. British Transplantation Society. Standards for solid organ transplantation in the United Kingdom. 2001. [[www.bts.org.uk/standards.htm](http://www.bts.org.uk/standards.htm)]
  5. Cowlrick I, Delventhal H, Kaipainen K, Krcmar C, Petan J, Schleiber S. *Three-year follow-up of malignancies in tacrolimus-treated renal recipients – an analysis of European multicentre studies*. *Clinical Transplant*: 2008 may-Jun;22(3):372-7
  6. United Kingdom: General Medical Council. *Good Medical Practice*. London: GMC, 2001.

### **Clinical Case Three**

#### Background to the Referral:

A 59-year-old male Refuse Loader was referred for advice about a likely return to work date, measures that could be taken to facilitate this, the likelihood of temporary or permanent disability occurring and whether he would be able to render reliable service and attendance in the future.

I had examined him 3 months previously following long-term absence due to work-related back and right leg injuries. He had complained of forefoot and back pain unresponsive to treatment. Examination was unremarkable and my assessment supported by medical reports from his doctors recommended a graduated rehabilitation programme to return him to work.

Prior to his planned return he took a short holiday and further injured himself necessitating further time off work.

#### Occupational History:

A council employee for 28 years in a range of manual labouring jobs, he had been in his current role for 6 years. He confirmed ongoing legal issues regarding his work-related accident and was unsure when it would be resolved. There were no other reported work-related issues or concerns. He stated his Line Manager was supportive. He was an active Union member and representative. He had sustained 4 or 5 injuries over his 28 years and required time off on each occasion. His sickness absence record revealed a pattern of frequent short-term absences due to a range of self-limiting minor medical conditions.

His role as a refuse loader was an active one, requiring good physical mobility and stamina. He walked about 8 miles each day and climbed up and down off the lorry very regularly.

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He had been trained in manual handling and ergonomic lifting aids were incorporated into all refuse vehicles. No heavy lifting was therefore required.

Presenting Problem and Medical History:

While dancing with his grandchildren at a disco he ruptured his right Achilles tendon. Orthopaedic surgical review was arranged and a decision to treat conservatively made. He remained non-weight bearing for 8 weeks in a resin cast. Thereafter he was placed in a below knee walking cast and provided with a pair of fitted elbow crutches. At occupational health review he had been walking with crutches for 3 weeks. He was coping well with his reduced mobility and was able to carry out his activities of daily living (ADL) without too much inconvenience. He had difficulties walking up and down stairs and could walk slowly for approximately 10-15 minutes without a rest.

Intensive physiotherapy was planned after the removal of his cast, which was likely to occur in a further 4 weeks.

He had previously sustained 3 work-related lacerations requiring sutures and time off work and minor bumps and bruises. There was no other significant medical history of note. He took no medication regularly.

He drank between 20 – 25 units of alcohol weekly and smoked 15 – 20 cigarettes daily with a 34-pack year history.

Clinical Examination:

He appeared fit and well, was of medium height and a wiry build, close to ideal weight.

He walked slowly with a pronounced (right) limp using two elbow crutches.

General clinical examination was unremarkable. Spinal movements were unrestricted on distraction. There was no significant wasting of his quadriceps muscles and his hips and knees demonstrated a full range of stable movement. He was able to sit, walk, bend, and reach up. Manual dexterity and cognition were unimpaired.

#### Diagnosis and Opinion:

His conservatively managed ruptured Achilles tendon was making a satisfactory recovery. No potential medical barriers to engaging in vocational rehabilitation were identified, however, non-medical barriers included unresolved legal action with employee seeking compensation from his employer and likely work-related psychosocial factors suggested by previous responses to injury at work and absence record.<sup>1(p74-770)</sup>

#### Advice and Communication:

I advised him that commencement of a vocational rehabilitation programme would probably be possible after 4-6 weeks of intensive physiotherapy via accommodated work and a return to normal duties within 4 - 6 months<sup>2</sup>. I indicated management's willingness to make accommodations and rehabilitate him back into work and the flexibility of the rehabilitation programme to match his abilities and progress. The benefit of early return to work, via accommodations if necessary, was emphasised<sup>3,4</sup>.

Advice regarding his impairment, likely length of time for rehabilitation and suggested adjustments to enable a return to work were detailed. A short phased return to normal working hours over 3 weeks was suggested and the temporary provision of modified work, which would minimise walking, bending, kneeling, stooping and heavy lifting (greater than 15 Kg from waste height) with the ability for him to sit and rest when he needed was discussed.

With consent I wrote to his general practitioner advising of the full range of occupational health issues and summarised the rehabilitation programme.

#### Progress:

Alternative work assembling plastic "wheelie" bins met all suggested temporary adjustments. A 3-week phase up to normal working hours was arranged, and he returned to the workplace after a slightly extended course of physiotherapy. Monthly occupational health review occurred and his range of duties expanded apace with his functional recovery. He returned to unrestricted duties 5 months later.

### Discussion:

Vocational rehabilitation should be considered part of medical rehabilitation<sup>5</sup>. An early return to “good” work via modified duties is beneficial to health and promotes a return to wellbeing. Successful rehabilitation addresses personal, health and social obstacles to recovery and evidence supports that utilising the biopsychosocial approach is more effective than the traditional biomedical model<sup>6</sup>. Occupational health practitioners have an important role in addressing barriers to return to work by advising the employee, the employer, the GP and other health professionals on the full range of occupational health issues<sup>1 (p80-82)</sup>. The key elements to a return to work programme include good communication between all parties, recognition of obstacles to recovery and barriers to a return to work, knowledge of support services, active management, a positive outlook and patient centred approach. The occupational health physician is a facilitator, an interface and case manager ensuring employees return to function and work as soon as possible after illness or injury.

### **Clinical Case Three References:**

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1. Palmer KT, Cox RAF, Brown I, editors. *Fitness for Work - The Medical Aspects*. 4<sup>th</sup> ed. Oxford University Press 2006.
  2. United Kingdom: Department for Work and Pensions. A-Z of medical conditions – Achilles tendon rupture. [[www.dwp.gov.uk/medical/med\\_conditions/minor/ruptured\\_tendon/treatment\\_rt.asp](http://www.dwp.gov.uk/medical/med_conditions/minor/ruptured_tendon/treatment_rt.asp)]
  3. Waddell G, Burton AK. *Is work good for your health and well-being?* London: TSO, 2006.
  4. United Kingdom. Dame Carol Black’s review of the health of Britain’s working age population. *Working for a healthier tomorrow*. London: TSO, 2008.
  5. Waddell G, Burton AK. *Concepts of rehabilitation for the management of common health problems*. London: TSO, 2004
  6. Waddell G, Burton AK. Vocational Rehabilitation Task Group – Industrial Injuries Advisory Council. *Vocational rehabilitation: What Works, for Whom, and When?* London: TSO, 2008

## Clinical Case Four

### Background to Referral:

A 31-year old female prospective employee applying for the position of college lecturer indicated on her pre-employment health-screening questionnaire that she suffered from Chronic Fatigue Syndrome (CFS). Referral to establish functional capacity, fitness for the role and ability to offer regular effective attendance at work was made by the screening occupational health advisor.

The proposed role involved part-time work at 24 hours per week requiring teaching, administration, computer work, and attendance at meetings. No vocational travel was required and there was minimal walking required between classrooms.

This scheduling suited her and she had discussed her condition and needs at interview with management.

### Occupational History:

She had held two substantive teaching posts since leaving college; the first as a lecturer/tutor for 3 years and the second as a lecturer until present day. Both were at college level.

She had developed CFS in post 4 years prior. Absence information was not available for review.

Absent for 8 months before formal diagnosis, she then underwent medical rehabilitation for 4 months. She returned to work via a protracted, graduated vocational rehabilitation programme devised and supervised by her employer's occupational health physician. She was able to return to part-time employment and duties with the help of adjustments. Relapses occurred unpredictably 4 or 5 times per year, but lasted between 2 – 7 days on average. Most of the time she was able to perform her duties efficiently

#### Presenting Medical Problem:

CFS was suspected by her general practitioner (GP) and diagnosed by a consultant rheumatologist. She had typical symptoms<sup>1</sup> of fatigue, poor sleep, muscular aches and pains when she presented to her GP. No cognitive problems were reported and she experienced no sore throat or enlarged lymph glands. Alcohol made her symptoms worse and she electively stopped drinking alcohol.

Other potential medical diagnoses had been excluded and her GP monitored her for the first few months. Despite a supportive employer, she was unable to remain at work.

On diagnosis she was managed with a combination of cognitive behavioural therapy (CBT) and graded exercise therapy. A selective serotonin re-uptake inhibitor antidepressant was prescribed but stopped after 2 weeks due to unacceptable side effects.

She responded relatively quickly and felt sufficiently well within 4 months to return to work via a protracted phased rehabilitation programme. Her employer was supportive and willing to make adjustments based upon occupational health practitioner advice. Successful reintegration into the workplace occurred over 3 months.

Adjustments allowed her to manage her condition in a proactive and positive way, and she largely remained well and in work thereafter.

At work, she identified perceived stress as increasing the likelihood of relapse with high volume work, tight time constraints and unreasonable deadlines being the most likely reason for a relapse.

Relapse symptoms included the need to sleep more than normal, muscle and joint pain and a mild degree of photophobia.

Past Medical History:

There was no relevant past medical history.

She was a life long non-smoker and no longer drank alcohol. She maintained a regular exercise programme, had an active social life but managed her activities sensibly to ensure she did not overly tire herself. She lived with her life partner of 4 years and a dog, which she walked daily.

Clinical Examination:

Clinical examination was unremarkable.

She appeared intelligent and articulate, there was no undue anxiety, her affect was positive and no abnormal perceptions or beliefs were noted.

She was cognitively unimpaired on Mini Mental State Examination<sup>2</sup>.

Functional Capacity Assessment:

She was capable of performing all her activities of daily living without assistance when well. During an exacerbation she remained fully capable but due to fatigue limited her physical activities.

She was able to identify early the start of an exacerbation and by resting and managing activity carefully, could usually limit any ill health to 2 – 7 days.

At work she was able to perform her role satisfactorily by carefully pacing herself and with the help of adjustments.

Identified Helpful Adjustments:

1. Provision of a quiet place “to call her own space”: a place to rest between classes or if feeling fatigued
2. An adequate break between all classes of between 15 – 30 minutes

3. Realistic deadlines for identified work and requested projects, discussed and agreed in advance.
4. Provision of advance warning regarding her compulsory attendance at meetings of ideally 48 hours.
5. The ability to leave meetings lasting longer than one hour for approximately 5 – 10 minutes, to rest, if possible.

Advice and Communication:

I advised she was fit for the indicated post but due to a chronic medical condition would require adjustments to help her in the workplace. She had advised her prospective employer at interview that she suffered from CFS, and so with consent, I outlined the nature of CFS and described how she had learned to positively manage the condition. I advised that CFS had been accepted in Employment Tribunals<sup>2</sup> as qualifying as a recognised medical illness under the Disability Discrimination Act 1995/2005 and outlined adjustments, which would likely prove helpful. The potential risk of increased absence rate when compared to that of her peers was explained, but put in context that she managed her condition well, with the best predictor of future absence being her past record.

Discussion:

It could be argued that with the advent of the DDA 1995/2005, the only reason for pre-employment health assessment is to identify functional capacity and adjustments which would allow the employee to work optimally, which is recognised good practice anyway irrespective of whether the DDA may apply.<sup>3</sup> Fitness for work is not black and white and the ability to render regular service and attendance is probably best assessed by employment references and record-to-date. It could be argued that only two questions need be asked of a prospective employee: whether they have a disability? And if so, what adjustments are necessary?

Certain occupations, particularly safety critical ones, have statutory pre-employment examination requirements and fitness standards, but for the majority I believe this approach would prove more cost-effective and helpful.

Medically unexplained illnesses such as CFS are not uncommon in society and represent a significant financial burden to the state and a challenge to occupational

health practitioners<sup>1,2</sup>. An evidence-based approach to diagnosis, treatment and vocational rehabilitation is essential as the right interventions at the right time appear to make a critical difference to whether people return to meaningful work.<sup>1</sup>

Legal Context:

The Disability Discrimination<sup>4</sup>, Human Rights<sup>5</sup> and Data Protection<sup>6</sup> Acts all apply to pre-employment health screening.

An occupational physician owes a legal duty of care only to the employer when carrying out a pre-employment health assessment and owes a professional duty of care to the applicant. Deficient practice could lead to an allegation of professional negligence.<sup>7</sup>

**Case Four References:**

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1. United Kingdom. NHS Plus. NHS Plus evidence based guideline project. *Workplace management of chronic fatigue syndrome*. 2006. London .  
[http://www.nhsplus.nhs.uk/providers/images/library/files/guidelines/CFS\\_guideline.pdf](http://www.nhsplus.nhs.uk/providers/images/library/files/guidelines/CFS_guideline.pdf)
  2. Smedley J, Dick F, Sadhra S, editors. Oxford Handbook of Occupational Health. Oxford: Oxford University Press. 2007.
  3. Kloss D (2005). *Occupational Health Law (4<sup>th</sup> ed)*. Blackwell Science, Oxford.
  4. United Kingdom. *The Disability Discrimination Act 1995/2005*.
  5. United Kingdom. *The Human Rights Act 1998*.
  6. United Kingdom. *The Data Protection Act 1998*.
  7. United Kingdom. Faculty of Occupational Medicine. *Guidance on ethics for occupational physicians*. May 2006.

## **Clinical Case Five**

### Background to the Referral:

A 55-year old female teacher on long-term sick leave was referred for advice on whether she would be able to return to work, the timeframe, necessary adjustments and whether she would be able to give reliable service and attendance in the future.

### Occupational History:

Employed as a teacher for 30 years, she enjoyed her work, particularly helping less gifted children, but increasingly disliked the “red tape” and administrative aspects.

She denied any work-related concerns or perceived stress, stating that the volume of work and targets set were sometimes unrealistic but she was capable of managing her workload.

She worked 37.5 hours per week and an additional 2 hours most evenings marking and preparing lesson plans. She was based in her own classroom on the ground level, but was required to perform playground and lunch break supervisory duties.

She was keen to return to work but her mobility was impaired and she did not know how or when she would be “better”.

### Presenting Problem and Medical History:

18 months prior she had developed weakness of her right leg and aching pain in her right calf. Ultrasound abdominal scan revealed a mass in the right side of the pelvis. Total abdominal hysterectomy was performed. A 20-week size fibroid uterus with no evidence of any malignancy was removed.

Residual weakness of her right leg associated with foot drop was investigated by a consultant neurologist. Neurological pressure by the impacted fibroid mass was felt to be the likely cause. Fitted with a calliper, she required 2 walking sticks to help her walk. Physiotherapy was arranged. Prognosis was uncertain and the neurologist advised any recovery would probably be slow, possibly taking many months.

Occupational Therapy and provided with mobility aids.

Slow improvement in mobility occurred. She was able to carry out her activities of daily living, but walking was slow and unsteady, only able to cover up to 400m before resting. She was unable to climb stairs or stand for longer than 10 minutes. She could sit comfortably for prolonged periods. Her GP had continued to certify her as unfit for work.

She had no other significant medical history.

A life long non-smoker she drank less than 10 units alcohol per week. Widowed, she lived on her own in a bungalow and managed to cook and clean with some help from her daughters with the more vigorous tasks such as vacuuming.

She had not been prescribed any medication.

She did not possess a driving license and found using public transport problematic.

Reduced mobility and her concern about being unable to “get around the school or patrol the playground” were preventing her from working.

Clinical Examination:

She looked well but overweight (Body Mass Index of 35 Kg/M<sup>2</sup>). She walked slowly with the aid of two walking sticks and a calliper.

Clinical examination focussed on mental health assessment, musculoskeletal and neurological systems.

Cognition was unimpaired and there was no evidence of depression using the reliable and valid Patient Health Questionnaire (PHQ-9)<sup>1</sup>

Slight wasting of quadriceps and calf muscles with reduced power (Medical Research Council grade 4/5) of hip flexion, foot dorsiflexion and ankle eversion on testing was observed. Tone, coordination, sensation and reflexes were normal.

Diagnosis and Opinion:

A right leg lower motor neurone weakness of L 1 & 2 and L 4 & 5 - innervated muscles impairing mobility was evident.

I considered her capable of returning to adjusted work via a phased rehabilitation programme.

Advice and Communication:

Impaired mobility as the major barrier preventing her returning to work was discussed and resources and support available to help overcome her impairment were outlined.

A report to management described her functional abilities and included a range of workplace adjustments for consideration. I indicated my view that the Disability Discrimination Act 1995/2005<sup>2</sup> would likely apply.

Suggested adjustments included:

- Recording of absence attributable to this disorder as disability related
- Provision of an electric mobility scooter
- Adjusting premises to facilitate scooter access
- Restricting teaching duties to the ground floor
- Risk assessment of playground supervisory duties to ensure adequate support to manage an emergency (e.g. medical or disciplinary) when the employee was on duty

An example of a flexible rehabilitation programme was provided for consideration. Loss of confidence was highlighted and initial increased management support recommended. A workstation ergonomic assessment was recommended to ensure it was fitted to her needs. A case conference was suggested to discuss further how best to help return her to work.

The involvement of Access To Work<sup>3</sup> (Jobcentre Plus) was strongly recommended as this government agency (part of the Department of Work and

Pensions) provides expert assessment of needs, advice on suitable resources and tools and funding up to 80% of approved costs.

With consent I made contact with her general practitioner (GP) and explained the occupational health issues and benefits of returning her to work. He proved supportive.

Management Response:

Concerns were explored and discussed at a case conference. Management defined support mechanisms and logistical aspects.

Outcome/Progress:

Successful reintegration to work took place over 6 weeks. Access to Work provided assistance with transport to and from work, adaptations to premises to allow mobility scooter access and advice on mobility scooter options.

Absence has been minimal and she is positively contributing and functioning at work. No further improvement in her neurological impairment occurred.

Discussion:

Early occupational health assessment and advice would likely have helped this employee back to meaningful work sooner. This case highlights the benefit of early assessment, increasing awareness of important occupational health issues and the benefits of an early return to work among general practitioners<sup>4</sup> and for taking a positive approach to rehabilitation coupled with a sound working knowledge of legal issues and available resources.

The DDA provides a framework for the rehabilitation of all those employees with illness or injury, whether the Act applies or not. It is essential to engage with, and educate employers in the benefits of accommodating sick employees back to work early. The occupational health practitioner has an important role in

engaging key parties, managing resources<sup>4</sup> and the value of case conferences should be readily recognised.

#### **Clinical Case Five References:**

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1. Kroenke K, Spitzer RL, Williams JB; *The PHQ-9: validity of a brief depression severity measure*. J Gen Intern Med. 2001 Sep;16(9):606-13.
  2. United Kingdom: *The Disability Discrimination Act 1995/2005*
  3. United Kingdom. Department of Work and Pensions. Jobcentre Plus. *Access to Work*: Available from: <http://www.jobcentreplus.gov.uk/JCP/index.html>
  4. United Kingdom. Department of Work and Pensions: The Faculty of Occupational Medicine, The Society of Occupational Medicine, The Royal College of General Practitioners. *The Health and Work Handbook – patient care and occupational health: a partnership guide for primary care and occupational health teams*, 2005.

## **Clinical Case Six**

### Background to the Referral:

A 62-year-old female primary school teacher had been off work for 7 months following a failed return to work. Prior to this she had been absent for 6 months with depression.

Management had a report from her General Practitioner which indicated a poor prognosis, and a return to work was not foreseen. The GP supported ill health retirement.

I was requested to provide advice on her fitness for work, the likelihood of her returning to work and whether ill health retirement was appropriate. They were concerned that she had 5 episodes of significant absence stretching back over 9 years all due to depression.

### Occupational History:

She had worked as a primary school teacher for 23 years and with her current employer for over 13 years. She described a perceived increase in workload over the last 3 years with frustrating and unrealistic targets. However, she stated that she was adequately supported by her managers and had a positive working relationship with colleagues. There were no unresolved work-related issues and was dedicated to teaching “her children”.

### Presenting Problem/Past Medical History:

She had a 10-year history of recurrent depression, with no psychiatric assessment or input. 5 discrete episodes of depression had occurred with no obvious aetiological trigger identified. She was treated by her GP with antidepressant medication and counselling on each occasion. Successive episodes were more severe and required more time off work. The most recent episode had started 12 months ago. Antidepressant medication was prescribed and psychological counselling arranged. A return to work programme managed by the council’s then part-time Medical Adviser was attempted but failed after 3 weeks; she felt overwhelmed, lacked

confidence and her mood deteriorated rapidly. She continued under the care of her GP.

A maternal history of depression and alcohol misuse was noted.

She did not smoke tobacco nor drink alcohol.

Clinical Examination:

She looked well nourished and well presented. Her affect was flat and she was intermittently tearful during the interview. Eye contact was initially poor but as rapport built, improved. She described significant biological symptoms of depression.<sup>1</sup> She had isolated herself socially and rarely ventured out.

There was no suicidal ideation or evidence of abnormal perceptions or beliefs. Mini Mental State Examination<sup>2(p.907)</sup> (23/30) indicated cognitive impairment<sup>2</sup> She scored 20 on a Patient Health Questionnaire (PHQ 9) indicating a severe depression.<sup>3</sup>

Diagnosis and opinion:

The diagnosis was of a major depression<sup>5</sup>, recurrent in nature and probably under treated. NICE guidelines<sup>1</sup> advise a stepwise treatment for depression including specialist referral for recurrent or resistant depression. Her symptoms of impaired cognition and motivation with fatigue impaired her work ability and were sufficient to render her unfit for work in any capacity, as consistent with a recent paper which ranked the important aspects of work ability<sup>4</sup>

Advice and Communication:

I informed the employee that she appeared to be severely depressed despite treatment and that psychiatric assessment and management was appropriate.

With consent I contacted her GP and suggested referral for psychiatric assessment and management as the next step in her management as per NICE guidelines.<sup>1</sup>

My report to management confirmed she remained unfit for work for the foreseeable future (3-6 months) but that the prognosis for depression was good but dependent on

receiving the right level of treatment. I advised that specialist referral via the GP had been recommended and that the occupational health service would monitor progress. The likelihood of the Disability Discrimination Act 1995/2005<sup>6</sup> applying was mentioned and the implication of this summarised.

Progress:

She was assessed by a consultant psychiatrist and prescribed venlafaxine. Psychotherapy over an 18 – 24 month period was arranged.

She responded positively and at occupational health review 5 months later, she appeared well, with normal cognition and a PHQ 9 score of 9. I considered her capable of work and recommended a protracted return to work programme over 3 months. Her employer was made aware of the nature of recurrent depression, the likelihood of Disability Discrimination legislation applying and adjustments explained. The need for increased management support was identified and regular occupational health review arranged during the initial stages.

Her phased reintegration was successful and by the 4<sup>th</sup> month at work, she was performing her full duties. She remains on long-term venlafaxine and continues with psychotherapy.

Discussion:

Ill health retirement is a serious decision applicable only if an individual will never be fit for their designated post, no suitable alternative employment is available and all reasonable adjustments have been explored.<sup>2 (p 448-449), 6</sup> I advised management that ill health retirement was not appropriate.

Common mental health disorders (mild to moderate) are prevalent in the working population<sup>7</sup> with an estimated 1 in 6 members of the UK general population affected at any one time.<sup>8</sup>

The ability to recognise and evaluate mental health problems is an essential skill for all occupational health practitioners (OHP). I believe there is sufficient evidence<sup>9</sup> to mandate early open communication between GP, psychiatrist and OHP to assess how

best to return an employee to adjusted work and use vocational rehabilitation as part of medical rehabilitation.

### **Clinical Case Six References:**

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1. United Kingdom: National Institute for Clinical Excellence. Depression: *Management of depression in primary and secondary care*. The British Psychological Society & The Royal College of Psychiatrists, 2004.  
<http://www.nice.org.uk/guidance/index.jsp?action=download&o=29617>
  2. Smedley J, Dick F, Sadhra S, editors. *Oxford Handbook of Occupational Health*. Oxford University Press 2006.
  3. Kroenke K, Spitzer RL, Williams JB; The PHQ-9: validity of a brief depression severity measure. *J Gen Intern Med*. 2001 Sep;16(9):606-13.
  4. Slebus et al. *Work ability in sick-listed patients with major depressive disorder*. *Occupational Medicine* 2008;58(7):475-479.
  5. The ICD-10 Classification of Mental and Behavioural Disorders. World Health Organization, Geneva, 1992
  6. United Kingdom. *The Disability Discrimination Act 1995/2005*.
  7. United Kingdom: British Occupational Health Research Foundation. BOHRF. Workplace interventions for people with common mental health problems: Evidence review and recommendations, 2005. London.
  8. Singleton N, Bumpstead R, O'Brien M, Lee A, Meltzer H. Office of National Statistics. *Psychiatric morbidity among adults living in private households, 2000*. London: The Stationary office.
  9. Sainsbury R, Irvine A, Aston J, Wilson S, Williams C, Sinclair A. Department for Work and Pensions. Research Report No. 513. *Mental health and employment*. 2008. London.

## **Clinical Case Seven**

### Background to Referral:

A 44-year old male accountant suspected of a mental health problem, or substance misuse by his manager was referred for medical assessment. Significant personal financial problems had resulted in him becoming homeless and management considered he was demonstrating an apparent lack of ability or willingness to address this. Appearing worried and lacking in confidence, concern for his wellbeing was expressed. No further information was offered and no specific advice sought.

To establish a clearer understanding and gather background information I met with his manager. The employee's performance and attendance were satisfactory and consistent. His appearance, conduct and mood appeared normal. He was described as being "a bit eccentric" and a "loner" but had always been so. Aware of his financial problem the company provided him with an interest free loan of £250.

### Occupational History:

Employed as a senior accountant for 8 years, he had a positive working relationship with his colleagues. He denied work-related issues or perceived stress. He managed a team of 4 other accountants and reported to the Business Unit Manager.

He was German of Prussian and Russian descent and had left Germany to live and work in England just over 8 years before. He had trained as an accountant in East Germany and worked for 2 companies since qualifying in 1984. He stated his work record was excellent and that he had little sickness absence.

He found life in England initially challenging but adapted well and his work played a large part in his integration into British life.

### Presenting Problem & Medical History:

Reported fraudulent use of his bank account with loss of £10 000 resulted in his account being frozen. Unable to pay for his rented accommodation, he missed several payments and was evicted owing the landlord £1200. He had £7500 debt by way of bank loans that he paid off monthly. Unable to secure alternative rented

accommodation without a deposit, and with insufficient funds after monthly debt repayment to afford hostel accommodation, he had started to sleep “rough” at a major railway station. He had a clear plan and budget which would allow him to pay off his debt and save sufficient money for a deposit within 3 months. He had budgeted money for clothes, food, travel to and from work and the necessities of life.

He found this difficult but not intolerable and stated it was the only practical option open to him. He explained he had no “real friends” in England, only work associates and did not feel comfortable asking for help or temporary accommodation. His family were in Germany and he had not been in touch with them for many years.

He felt capable of work, had taken no absence but struggled getting across town from the railway station to the office due to the distance involved. However, he had not been late. The choice of the railway station was explained as it had recently been refurbished, was enclosed, open 24-hours, warm, had comfortable seating and shower and toilet facilities.

He deeply resented management interference but understood their concern and accepted referral for occupational health review as a procedural necessity.

He offered no significant past medical history.

He was single and had not been in any significant long-term relationship. He had 5 good friends in Germany. He had no one he would confide in or turn to for help. He stated he had always been more comfortable with his own company.

He smoked 15 – 20 cigarettes per day accumulating a 29-year pack history. He drank less than 21 units per week. He denied any increase in alcohol usage. He denied use of recreational drugs and was not taking any form of medication.

He was reluctant to provide specific details regarding the alleged fraudulent use of his account but did state he had consulted with the Citizen’s Advice Bureau and had been advised it may take a few months to be resolved.

Since living in England, he had not registered with a general practitioner as he “had not been unwell”.

He was a devout Orthodox Christian who worshipped in London. He was deeply religious and appeared to find great comfort and strength from his beliefs.

He was coping with being homeless though it was stressful and initially frightening. He stated it was difficult, but a necessary temporary situation and that “you can get used to anything”. He had problems sleeping sitting in a chair at the station (he was unable to lie down as the Police would then move him on) but was adapting. He ate mainly from cheap fast food outlets but seemed to get adequate nutrition. He performed his daily toilet in the railway station toilets and showered every second day or so (this was budgeted for).

#### Family History:

Both his parents were dead. He was an only child. He had cousins in Germany and Latvia but had not seen them “for years”. He was unaware of any family illnesses.

#### Clinical Examination:

He appeared healthy, was of slight build (Body Mass Index – 24 Kg/M<sup>2</sup>), was neat and well presented. His manner was aloof but not unhelpful. Cognition was normal on mini mental state examination.<sup>1</sup> Reasonable rapport was achieved with good eye contact; his behaviour was appropriate and use of the English language precise. He communicated articulately. He gave the impression of being analytical and logical. He made one or two jokes (appropriate) during the discussion and they were heavily ironic.

He exhibited no obvious abnormal thoughts, beliefs or perceptions. He scored 6 on completing the Patient Health Questionnaire (PHQ 9)<sup>2</sup> indicating minimal symptoms.

The Alcohol Use Disorders Identification Test (AUDIT)<sup>3</sup> questionnaire was administered with a score of less than 8 being achieved, indication a non-harmful level of alcohol consumption.

Clinical examination was unremarkable.

Opinion:

I was unable to identify any medical problem. Screening for alcohol misuse and depression using validated, sensitive questionnaires was negative. Cognitively he was unimpaired and there was no evidence to support drug misuse. His assessment of his situation was realistic and his plan to resolve the problem logical.

The issues surrounding the alleged fraudulent use of his bank account were not made clear and it may be there were other significant matters at play.

He appeared to exhibit many of the characteristics of schizoid personality<sup>4</sup> but was not obviously disabled or distressed.

His performance and attendance at work had not been affected and he continued to function and interact as he always had with colleagues and management.

Advice and Communication:

I provided contact details for the company's Employee Assistance Programme and recommended he make contact for financial and counselling support. The importance of a varied diet containing fruit and vegetables was emphasised and registration with a GP strongly recommended (though the potential difficulties doing this without an address was recognised). Attendance at the local accident and emergency department should he become unwell was recommended.

I confirmed with management that there was no obvious medical condition impacting on his ability to render service or attendance. The plan to resolve his financial situation was described. I suggested that the increased level of management support being provided, be extended. I advised that he could be managed by the company's usual administrative policies and procedures should there be any issue with performance or attendance.

### Discussion:

Personality disorders probably affect 1 in 10 people in the U.K.<sup>5</sup> but schizoid personality is uncommon in clinical settings.<sup>6 (p149)</sup> It is likely that people with more extreme forms of personality disorder will have a poor employment record or be unemployed. In this man's case there was no overt mental health disease, his performance and attendance had remained consistent and his behaviour unchanged. He had traits of a personality disorder but was not distressed or disabled by these. His work record and attendance were good and intellectually he was unimpaired. Potentially I could have referred him for formal psychiatric evaluation as personality disorders may be amenable to treatment, and during periods of stress psychotic breakdowns can occur. However, I considered there was insufficient evidence to support mental ill health per se and adopted a supportive "wait and watch" role and requested his line manager contact me if there were any concerns or deterioration in performance or attendance.

### **Clinical Case Seven References**

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1. Smedley J, Dick F, Sadhra S, editors. *Oxford Handbook of Occupational Health*. Oxford University Press 2006.
  2. Kroenke K, Spitzer RL, Williams JB; The PHQ-9: validity of a brief depression severity measure. *J Gen Intern Med*. 2001 Sep;16(9):606-13.
  3. Saunders JB, Aasland OG, Babor TF et al. *Development of the alcohol use disorders identification test (AUDIT): WHO collaborative project on early detection of persons with harmful alcohol consumption*. *Addiction* 1993, 88: 791-803.
  4. The ICD-10 Classification of Mental and Behavioural Disorders. World Health Organization, Geneva, 1992. F60.1
  5. United Kingdom. The Royal College of Psychiatrists - on line. *Personality Disorders*. <http://www.rcpsych.ac.uk/mentalhealthinformation/mentalhealthproblems/personalitydisorders.aspx>
  6. Palmer KT, Cox RAF, Brown I, editors. *Fitness for Work - The Medical Aspects*. 4<sup>th</sup> ed. Oxford University Press 2006.

## **Clinical Case Eight**

### Background to Case:

A 56-year-old male Health, Safety & Environmental (HSE) Supervisor working for an oil company offshore in U.K. waters underwent a routine pre-deployment medical examination for a proposed 6-month posting to Algeria. Renal function testing revealed significant hypokalaemia. As the company occupational health physician I was informed of this and required to assess his fitness for deployment.

### Occupational History:

He had spent 20 years as a non-commissioned officer in the Royal Navy and trained as a diver. He performed mostly air dives but had spent time at depth in saturation. He was routinely medically examined as per Navy requirements with no health issue being identified. He underwent Oil & Gas UK fitness to work offshore medical examinations at the required frequency<sup>1</sup>.

He had been exposed to noise, ionizing radiation, compressed air, various chemicals, heat and cold while in the Navy and offshore.

### History of Presenting Problem:

Renal function had been assessed prior to commencing perindopril (an Angiotensin Converting Enzyme Inhibitor) for hypertension 4 years previously and had identified a potassium level at the low end of normal. This was attributed by his general Practitioner (GP) to daily consumption of strong Norwegian liquorice, which has a carbenoxolone-like effect due to glycyrrhizin<sup>2</sup>. He was told to reduce his liquorice intake and eat potassium rich foods. No further blood tests had been performed until his pre-deployment medical.

He confided that he had continued to consume liquorice regularly and suggested this was the reason for his hypokalaemia. A repeat serum electrolyte analysis after a week free of liquorice consumption confirmed a significant hypokalaemia of 2.1 mmol/l.

I referred him for investigation by a renal medicine consultant utilizing the company's private medical insurance scheme.

A provisional diagnosis of Gitelman's Syndrome<sup>3</sup> was made and confirmed after further investigation at the Professorial Renal Unit of a large University teaching hospital, which specialized in rare genetic renal disorders.

Past Medical History:

Apart from hypertension treated with an ACE inhibitor, he had no significant medical history.

He had stopped smoking over 20 years ago with an 18-year pack year history. He drank between 15 and 25 units of alcohol per week. He remained physically active and still scuba dived recreationally.

Progress:

He was prescribed magnesium and potassium supplements as he was chronically depleted of both. He was reluctant to take treatment and after 10 days stopped his prescribed supplementation. He argued he felt well, had clearly had this disorder for a long time and had been working in remote locations without incident.

Diagnosis and Opinion:

Gitelman's syndrome (a rare genetic renal disorder) causes chronic depletion of body stores of magnesium and potassium. An increased risk of cardiac dysrhythmia was confirmed by an expert in renal medicine but was not quantifiable. However, long-term treatment with potassium and magnesium supplementation would reduce the risk of a sudden incapacitating cardiac event to that of his peers.

Communication & Advice:

He was advised he was temporarily unfit for work in remote locations due to his increased risk of sudden medical incapacitation due to hypokalaemia. A practical approach to managing his medical risk was discussed which included compliance with taking prescribed treatment to maintain his serum potassium within the normal

range. A three month period of stable “normal” serum electrolyte levels on treatment confirmed by monthly blood test would be necessary before lifting this restriction and a monthly blood test on site by the medic would be required for the first 3 months on his return to unrestricted duties.

The employee refused to comply with the proposed plan insisting that he was not at increased risk as he had adjusted to hypokalaemia and hypomagnesemia over time and therefore fit for the post. He refused consent to allow communication of any medical details with his employer and with his GP.

He was therefore advised that I found him unfit for offshore and international remote location work but fit for onshore, non-safety critical work. He was advised regarding his duty to advise the DVLA of his condition<sup>4,5,6</sup>

His line manager was informed of work restrictions due to fitness issues. I confirmed that a medical problem identified at pre-deployment medical examination increased his risk of a sudden incapacitating medical event and he was therefore unfit for work in remote locations. I emphasized that the medical risk could be controlled successfully by long-term treatment and a practical strategy to return him to full duties had been discussed but declined by the employee.

#### Progress:

The employee was restricted to work onshore. He challenged the decision with his Line Manager and I was asked to confirm that the specialist unit had confirmed an increased risk and that it was significant. This I did, but emphasized the level of risk was not quantifiable. The employee resigned 4 months later.

#### Discussion:

I found this case both interesting and frustrating. Generally routine screening of blood is unhelpful and wasteful of resources.<sup>5</sup> I firmly believe in performing screening tests only when there is a clear benefit or clinical indication. However, in this case significant hypokalaemia was confirmed and a rare genetic disease identified. Simple effective treatment was available to manage his condition and

reduce any associated increased risk of sudden cardiac-related incapacitation, and yet despite a thorough explanation and a reasonable approach to managing his risk, he refused treatment and was combative.

I discussed his response with senior colleagues without any consensus being reached on his behaviour and actions.

In retrospect there may have been an unidentified employment issue, which affected his behaviour or I failed to adequately communicate the risk of his condition and the benefits of compliance with treatment.

### **Clinical Case Eight References:**

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1. United Kingdom: *Oil & Gas UK. Medical Aspects of Fitness for Work Offshore: Guidance for Examining Physicians*. Issue 6, March 2008.
  2. Ferrari P et al. *In vivo II beta-HSD-2 activity: variability, salt sensitivity, and effect of liquorice*. *Hypertension* 38(6): 1330-6
  3. Watanabe S, Uchida S. *Barter's Syndrome and Gitelman's Syndrome: Pathogenesis, pathophysiology and therapy*. *Japanese Journal of Clinical Medicine*, Feb 2006, Vol. 64 Suppl. 2 p.504-7
  4. United Kingdom: *The Road Traffic Act 1988* [[www.opsi.gov.uk/legislation/](http://www.opsi.gov.uk/legislation/)]
  5. United Kingdom: *The Motor Vehicles (Driving Licenses) Regulations 1999* [[www.opsi.gov.uk/legislation/](http://www.opsi.gov.uk/legislation/)]
  6. United Kingdom: Driver and Vehicle Licensing Agency. *For Medical Practitioners – At a glance Guide to the current Medical Standards of Fitness to Drive*: Drivers Medical Group DVLA Swansea [[www.dvla.gov.uk/medical/ataglance.aspx](http://www.dvla.gov.uk/medical/ataglance.aspx)]

## **Clinical Case Nine**

### Background:

A 43-year-old male marketing executive employed by an alcoholic drinks manufacturer was referred due to concern about possible alcohol misuse. His history was of deteriorating performance and frequent short-term sick leave over 10 months. Recently he had been found sleeping at his desk, mid-morning smelling of alcohol. He had been managed by the Company's standard absence policy until that point and had denied any alcohol problem on being challenged. He had agreed to occupational health review as part of a disciplinary procedure.

### Occupational History:

Employed by the company for 6 years originally he had been engaged as site operations manager responsible for warehouse and distribution logistics a beer factory. He had been made redundant and unable to identify employment elsewhere had requested consideration for relocation within the company. He accepted his current post with reservations 3 years prior and proved capable in the role.

He had a university degree in applied engineering.

He identified no work-related issues. He had a supportive line manager and felt confident in his abilities. About 50% of his time was spent traveling to meet with clients, the rest of the time he was office based. He drove vocationally.

### Presenting Problem:

Initially recalcitrant at interview, with reassurance of the confidential nature of the consultation an adequate rapport was established. He advised me that he was under very significant financial and personal pressures. His salary had reduced by about a third on taking the new position "forced upon him by redundancy" and to maintain his daughter in private school and meet the mortgage he had run up debt of £47 000. His marriage was in severe difficulties. He had always been a heavy drinker of alcohol, consuming 30 – 40 units of alcohol per week since leaving University. Over the last 12 – 18 months he had started to drink more heavily and binged most

weekends. He felt extremely anxious, depressed and guilty but indicated he would “rather be unconscious than face the reality of the situation”.

For many weeks he had been drinking to “to get drunk” almost every evening, his daughter was frightened of him when drunk and his wife wanted him to leave. I calculated that his weekly intake of alcohol exceeded 80 units.

He was CAGE questionnaire<sup>1</sup> positive 4/4.

He had no past medical history of note and no family history of alcohol misuse or mental health disorders. He was a life long non-smoker. He had not been physically violent but had been verbally aggressive frequently in the house.

Clinical Examination:

He looked unwell. An odour of stale alcohol was detectable on his breath. There were no stigmata of chronic liver disease. He had a fine tremor of both hands, was tachycardic, and had a mildly raised blood pressure. His liver extended 2.5cm below the costal margin, with an upper border identified by percussion in the 5<sup>th</sup> intercostals space. He was tender in the right subcostal area.

Cognitively he was grossly unimpaired on Mental State Examination<sup>2</sup> (27/30).

A PHQ 9<sup>3</sup> score of 11 indicated a moderate depression.

An Alcohol Use Disorders Identification Test (AUDIT)<sup>4</sup> score of 22 indicated likely alcohol dependence requiring referral to a specialist for diagnostic evaluation and treatment.

Diagnosis:

History, clinical examination and screening with valid and sensitive tools supported a diagnosis of Problem Drinking, with a high probability of dependence. A reactive depression was evident.

Investigations:

A full blood count, liver function tests and carbohydrate deficient transferrin (CDT) to assess impact of alcohol excess and to provide a baseline for reference was requested.

The results showed an increased MCV (mean cell volume), raised gamma GT, mildly raised amino transferases (AST/ALT) and a significantly raised CDT value of 4.5%.

Advice & Communication:

He agreed he had an alcohol problem and had “no idea” how resolve his various problems. I explained the benefits of the company’s alcohol policy and consented to me communicating his alcohol problem with a summary of the contributing background issues to management. He was advised of his duty to contact the DVLA<sup>5,6,7</sup> to inform them of his alcohol problem and instructed to stop driving until the DVLA advised him otherwise in writing. He was provided with contact details for the company employee assistance provider service. Additional options for financial advice included accessing the Citizens Advice Bureau and speaking with his bank manager. He provided consent for me to telephone his general practitioner in his presence to explain the issues. An appointment was arranged that evening for him.

I confirmed with his manager an alcohol problem and recommended that he be managed via the company’s alcohol and drug misuse policy. I advised that he would likely require 10 – 14 days off work to complete alcohol detoxification, but should be able to attend work thereafter to discuss the policy, agree a “contract” defining expectations and support provided. I advised of his duty to inform the DVLA of his problem and that he should not drive on company business until he had his license restored.

### Progress:

He joined Secular Organisations for Sobriety (SOS), regularly attended meetings and received a high level of support and encouragement.

A contract defining what he could expect from the company in terms of support and what they expected from him (compliance with treatment, regular review by occupational health, reliable attendance and service and abstinence from alcohol) was signed. He was required to use public transport for client meetings but for the first 3 months he would be office-based.

He contacted his bank manager and agreed on a debt management plan. He declined personal counselling.

Satisfactory progress was made for 2 months but he relapsed when his wife left him. He advised his line manager of the situation and absented himself from work for 2 weeks. At formal interview on return to work he was given a “final warning” that he must comply with the contractual agreement. Unfortunately he continued to drink and had his employment terminated on the grounds of capability.

### Discussion:

Alcohol misuse is a significant problem in UK society.<sup>8</sup> Over 90% of adults consume alcohol with 30% of men and 20% of women drinking more than recommended safe levels. 7% of UK men drink more than 50units/week.<sup>2(p 502-3)</sup> A significant proportion of the workforce are therefore likely to be problem drinkers which may well impact upon safety, productivity and quality. Problem drinkers have a rate of absence between two and eight times as high as non-problem drinkers.<sup>8</sup> A practical, positive approach to managing alcohol problems in the workplace is needed aimed at encouraging problem drinkers to seek help. This is best achieved by having a policy based on firm principles aligned with the values of the employer, law and good medical practice.<sup>9</sup> This provides a framework to guide the treatment and rehabilitation of those with alcohol misuse problems and can safeguard employees, customers and the public. There is much that the occupational health practitioner can

do by way of employee education, making resources and available help known and maintaining a positive approach.

The case described and outcome illustrates the guarded prognosis for those with an alcohol problem.

Legal Context:

An employer has duties and obligations with regard to alcohol misuse in the work place under the following regulations in the UK

1. Health and safety at Work etc Act 1974
2. Management of Health and safety at Work Act 1999
3. Road Traffic Act 1988

Addiction to alcohol is not a condition protected by the Disability Discrimination Act 1995/2005 but alcoholics are recognised within law as suffering from a disease in which craving for drink can produce an abnormality of the mind so that its use becomes involuntary.

Many employers treat alcoholism as an illness, provided the employee seeks and follows a clinical recovery programme, and provided that no disciplinary offence is committed. This is the approach and philosophy I promote to management.

## Clinical Case Nine References:

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1. Ewing JA. *Detecting Alcoholism: The CAGE Questionnaire*. Journal of the American Medical Association. 252:1905-1907
  2. Smedley J, Dick F, Sadhra S, editors. *Oxford Handbook of Occupational Health*. Oxford University Press 2006.
  3. Kroenke K, Spitzer RL, Williams JB; The PHQ-9: validity of a brief depression severity measure. J Gen Intern Med. 2001 Sep;16(9):606-13.
  4. Saunders JB, Aasland OG, Babor TF et al. *Development of the alcohol use disorders identification test (AUDIT): WHO collaborative project on early detection of persons with harmful alcohol consumption*. Addiction 1993, 88: 791-803.
  5. United Kingdom: *The Road Traffic Act 1988* [www.opsi.gov.uk/legislation/]
  6. United Kingdom: *The Motor Vehicles (Driving Licenses) Regulations 1999* [www.opsi.gov.uk/legislation/]
  7. United Kingdom: Driver and Vehicle Licensing Agency. *For Medical Practitioners – At a glance Guide to the current Medical Standards of Fitness to Drive*: Drivers Medical Group DVLA Swansea [www.dvla.gov.uk/medical/ataglance.aspx]
  8. Palmer KT, Cox RAF, Brown I, editors. *Fitness for Work - The Medical Aspects*. 4<sup>th</sup> ed. Oxford University Press 2006.
  9. United Kingdom: Faculty of Occupational Medicine. *Guidance on alcohol and drug misuse in the workplace*. 2006.

## **Clinical Case Ten**

### Background:

A 54-year old man employed as Principle Manager of Primary Standards by a London borough council was referred for advice about a possible return to work following an 8-month absence.

Information requested included a likely return to work date, whether ill health was work related, the likelihood of future reliable attendance and service and suitability for ill health retirement.

### Presenting Problem:

His elderly parents had both died within the year. They had become increasingly frail over a 2-year period requiring him to act as primary carer, travelling 70 miles daily to do this. His mother-in-law died unexpectedly a few weeks after his own parents and this was followed within a few months by the death of his closest personal friend.

At work he perceived excessive pressure for a 4-month period prior to the start of his absence while preparing for an OFSTED (Office for Standards in Education) Audit of the primary schools under his control.

He developed symptoms of anxiety and depression and unable to cope with work, his general practitioner (GP) signed him off work, prescribed antidepressant medication and arranged counselling. An administrative error meant he did not receive counselling but he had been working through his grief and concerns regarding work by regularly speaking to two close friends, one of whom was a psychologist.

At review he appeared well and the symptoms of anxiety, sleep fragmentation, tearfulness and low mood had resolved 4 months previously. He felt physically well and psychologically much better.

He confided that he had lost confidence in his abilities and was fearful of returning to work.

Clinical Examination:

Eye contact was good and rapport easily established. He was insightful and articulate.

He was cognitively unimpaired and exhibited no abnormal perceptions or beliefs.

His PHQ 9<sup>1</sup> (Patient health Questionnaire) score of 6 indicated minimal symptoms.

Past Medical History:

He had no past history of any mental health disorder or of any significant medical problem. He rarely attended his GP.

He was an ex-smoker accruing a 15-pack year history. He drank wine and beer socially, had not increased his consumption when depressed and consumed below 21 units per week.

He lived with his wife of 8 years and had no children. There were no undue stressors in his personal or family life. He had come to terms with the deaths of his parents, mother-in-law and friend.

Occupational History:

He had worked for the Council as Principle Manager of Primary Standards for 2 years. As a teacher he had become increasingly involved in standard setting at his previous school culminating in him leave teaching in favour of a full time managerial post as he believed he “could make a difference”.

Work was challenging but enjoyable. He managed a team of 4 people. Several schools under his remit had scored poorly at last OFSTED inspection and it was critical they improved. Preparation for the subsequent inspection required 4 months of high volume, high pressure work which impacted the entire team, but particularly

him as he was ultimately responsible. Additional resources were denied due to insufficient funding.

This led to perceived stress affecting the whole team.

Advice and Communication:

I expressed my view that he was ready to return to work. The benefits of being in work were emphasised.<sup>2</sup> He was reassured that his anxiety and loss of confidence were normal and that a phased and supported return to the workplace would be recommended to ensure he reintegrated well.

With consent I informed his GP of the occupational issues and the proposed return to work programme. I confirmed there would be ongoing occupational health support during his reintegration.

My report to management confirmed his recovery from a common mental health disorder most likely caused by a combination of unresolved grief and perceived work-related stress and recommended a phased return to work programme, an initial increased level of management support while he reintegrated, regained his confidence and work-hardened.

Exploration and management of the factors that lead to his perceptions of work stress<sup>3</sup> was recommended prior to his return to the work place. Review of stress risk assessments<sup>4</sup> was suggested. A good prognosis for reactive depression was indicated and I opined that medically there was no reason for him not to be able to render reliable service and attendance in the future.

Progress:

He reintegrated into work well, quickly regained confidence and was well supported by management. The OFSTED audit performed during his absence had a positive outcome, though there was much work to be done. The team's workload had returned to a more manageable level.

### Discussion:

The need for early occupational health assessment of any employee on long-term sickness absence is again highlighted by this case. A policy of early referral (28 days absence) and an early, managed return to work is more effective in returning sick or injured employees to work and health.<sup>5</sup>

Open dialogue between human resources specialists and occupational health practitioners regarding best practice in the management of employees should be encouraged to ensure all health policies are based upon best available evidence and practice. The financial benefit of returning someone to work early can be emphasised.

The HSE Management Standards approach<sup>3</sup> to managing stress is practical and straightforward with detailed guidance and tools freely available on the HSE website.

### **Clinical Case 10 References:**

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1. Kroenke K, Spitzer RL, Williams JB; The PHQ-9: validity of a brief depression severity measure. *J Gen Intern Med.* 2001 Sep;16(9):606-13.
  2. Sainsbury R, Irvine A, Aston J, Wilson S, Williams C, Sinclair A. Department for Work and Pensions. Research Report No. 513. *Mental health and employment.* 2008. London.
  3. United Kingdom: Health & safety executive. HSE on line. *What are the Management Standards for work-related stress?*. <http://www.hse.gov.uk/stress/standards/>
  4. United Kingdom: *The Management of Health and Safety at Work Regulations 1999.* Statutory Instrument 1999 No.3242.
  5. United Kingdom: Department for Work and Pensions. Research Report No.277. *Job retention and rehabilitation Pilot: Employers' management of long-term sickness absence.* HMSO: London. 2004.
  6. United Kingdom: CBI. CBI/AXA absence and labour turnover survey 2008. *At work and working well?* 2008.

## **Workplace Project One**

### Introduction:

I identified through the collection of routine occupational health consultation statistics an apparent above average level of perceived work-related stress affecting the employees of an international medical assistance company. Stress-related complaints represented 82% of the caseload over 12 months.

The company had 4500 employees worldwide and 27 call centres in different countries manned continuously by. From call centres operations, nursing and medical staff dealt with medical and security crises, managed high pressure and high volumes of unpredictable work, coped with others' illness and injury in remote locations and met clients' very high expectations.

The London office employed 217 people, 123 in the alarm centre. Over 80% of stress cases originated from here.

Alerted by numerous subjective reports of stress I requested available data on other potential indicators of organisational stress including staff retention rates, employee turnover rates, sickness absence data and percentage citing stress as a factor leading to resignation identified at exit interview for the last 2 years. This information was not available for analysis but anecdotally retention was poor and turnover high.

Health Risk Assessments had not been performed although required by UK law<sup>1</sup> and there was no company Stress Policy.

### Action Taken:

I expressed my concerns to Management, highlighted the benefits of having a stress policy<sup>2</sup> and emphasized the legal requirement to health risk assess all jobs within the U.K. office. The Chief Executive Officer and co-owner of the company requested that I undertake a project to assess whether stress was an organizational problem globally or specific to the U.K. so that an appropriate stress-reduction strategy could be defined.

Discussion followed with the Corporate and U.K. Human Resources Directors regarding how best to evaluate workplace stress in the organization, ensure compliance with U.K. legislation and develop a stress policy. I recommended the Health & Safety Executive's (HSE) 5-step approach to risk assessment and advised that all necessary advice, tools and resources for stress management were available online at the HSE website.<sup>2</sup>

A literature search confirmed that work-related stress is a significant problem<sup>3</sup> and that call centres have worse than average scores relating to work-related stress.<sup>4</sup>

The HSE-developed Management Standards approach<sup>2</sup> to provide the most practical method for assessing and managing occupational stress risk. The online Stress Analysis Tool is an easy-to-use 35-item validated questionnaire relating to the six primary stressors identified in the management Standards. The items are based on best available evidence linking work design to health outcomes and include:

1. Demands
2. Control
3. Support
4. Relationships
5. Role
6. Change

With advice from a statistician<sup>5</sup> I designed a simple, descriptive cross sectional study utilizing the HSE Indicator Tool to measure perceived work-related stress in 3 representative call centres (London, Philadelphia and Sydney) matched for size, primary language and nature of work performed. All representative call centre employees were included in the study.

The questionnaire was modified with additional questions to identify:

- Location
- Job (operations/nurse/doctor)
- Gender
- Age
- Fulltime or part-time employment
- Job tenure
- Whether national or expatriate employee.
- Work pattern (rotating shifts/weekends/fixed)

Manchester University (COEH) Research Ethics Committee<sup>6</sup> approved the study protocol.

Preparation & Communication:

Necessary management support in each study location was gained. The HSE programme software was hosted by the London IT department and anonymity guaranteed. The stress indicator tool and subject information were piloted through UK-based Corporate employees (n=35) with informed consent and modified to ensure optimum user understanding and participation.

Subject information was sent by email to all potential participants 2 weeks in advance and again 3 days prior to the study commencing emphasizing the positive reasons for the study, its anonymity, confirming management's commitment to improving working conditions and guaranteeing the time for all to complete the survey during working hours. Weekly reminders were sent to encourage those who wished to participate to complete the study. The survey was run over 4 weeks.

Results:

Response rates were low at 54% but adequate to allow meaningful results.<sup>7</sup> No significant difference between the levels of perceived stressors for each centre was identified. There was clear evidence of significant perceived organizational stress with Demands, Relationships and Role response means below the 20<sup>th</sup> percentile requiring “urgent action” and Control, Manager’s Support, Peer Support and Change response means falling between the 20<sup>th</sup> percentile and sample mean, requiring a “clear need for improvement”.<sup>8</sup>

Results were presented graphically to management with an action plan based upon the HSE Stress Management Standards approach

Organisational Stress Control Strategy Recommendations:

- Company-wide adoption of the HSE Management Standards as a practical way of managing organizational stress
- Corporate Stress Policy to be created (The HSE Example Stress Policy<sup>9</sup> was provided for reference.)

Each regional office would require to:

- Secure senior management commitment
- Secure employee commitment
- Establish a steering group
- Develop a project plan
- Secure adequate resources
- Develop a communications/employee engagement strategy
- Consult and work in partnership with employees
- Discuss problem areas
- Implement management change
- Monitor and review effectiveness

I emphasized this was an ongoing programme.

Discussion:

There are many models of occupational stress, various assessment tools and approaches to its management. Much of the research I reviewed focused on identifying and managing vulnerable individuals. The HSE Management Standards approach is different and designed to identify and manage perceived organisational stress rather than identify “high risk” individuals which has previously been the most widely used approach.<sup>10</sup>

A key feature of the HSE process is that employee participation and involvement in the risk assessment process is essential. Exposure to potential harm is evaluated by the degree of consensus among employees, which ensures that the identification of a particular stressor is reliable for that group, at that time, and in that particular context and gives an indication of the size of the problem. This enables a prioritisation process to be carried out by the organisation and actions, based upon appropriate interventions, to be taken forward. Additionally adopting the methodology of the Management Standards will normally mean that an organisation is doing enough to comply with H&S Legislation.<sup>11</sup>

## Workplace Project One References:

1. United Kingdom: *Management of Health and Safety at Work Regulations 1999*. Statutory Instrument 1999 No.3242.
2. United Kingdom: Health and Safety Executive. HSE on line: *What are the Management Standards?*  
<http://www.hse.gov.uk/stress/standards/index.htm>
3. United Kingdom: Health and safety Executive. *Self-reported work-related illness and workplace injuries in 2005/06: results from the Labour Force Survey*. National Statistics.  
<http://www.hse.gov.uk/statistics/lfs/lfs0506.pdf>
4. Sprigg CA, Smith PR & Jackson PR. HSE Research Report 169. Psychosocial risk factors in call centres: An evaluation of work design and well-being. HSE 2003.  
<http://www.hse.gov.uk/research/rrpdf/rr169.pdf>
5. Mr. Alan Gibbs, Honorary Lecturer in Biostatistics, Department of Biostatistics, The University of Manchester, Oxford Road, Manchester M13 9PL
6. The Research Ethics Committee. The University of Manchester, Oxford Road, Manchester M13 9PL
7. United Kingdom: Health and Safety Executive. HSE Management Standards Stress Indicator Tool – User Manual. HSE on line:  
<http://www.hse.gov.uk/stress/standards/pdfs/indicatortoolmanual.pdf>
8. United Kingdom: Health and Safety Executive. Management Standards for tackling Work Related Stress. HSE Management Standards Analysis Tool.153 – User Manual. HSE on line:  
<http://www.hse.gov.uk/stress/standards/pdfs/analysistoolmanual.pdf>
9. United Kingdom: Health and safety Executive. An example of a stress policy. HSE on line:  
<http://www.hse.gov.uk/stress/pdfs/examplepolicy.pdf>
10. MacKay C, Cousins R, Kelly PJ, Lee S & McCaig RH. Management Standards and work-related stress in the UK: Policy background and science. *Work & Stress*. 18(2) 91-112, 2004.
11. Cousins R, MacKay C, Clarke S, Kelly C, Kelly PJ & McCaig RH. Management Standards and work-related stress in the UK: Practical development. *Work & Stress* 18(2) 113 – 136, 2004.

## Workplace Project Two

### Background to Project:

As medical director on a liquified natural gas (LNG) plant construction project in Nigeria, I expressed concern about proposed planned measures to manage welder exposure to heat stress during the final phase of construction of a butane tank. I identified erroneous assumptions regarding baseline humidity and temperature levels. Additionally an assessment had not taken into account that welding would occur within an enclosed structure with little or no air velocity, thus potentially exposing welders to significant heat stress.

The construction project was based on a small island in the Delta River State Region of Nigeria. 750 expatriate and over 9500 national employees were involved. With a range of international and national subcontractor companies, significant variability in approach to health and safety required strict management to project standards.

### Action:

I arranged a walk-through inspection of the tank with the construction manager to understand the scope of work and identify health related risks.

The work involved arc welding large curved metal plates in place at the top of the structure from the inside. Work coincided with the middle of the Nigerian “wet season” where humidity was very high and the average local daily temperature was 30° Celsius.

The survey was completed using the most recent risk assessment for this phase of work as a guide. This proved robust in all areas except for heat stress. A number of factors had not been considered when planning work and included:

1. Recorded local humidity and temperature were higher.
2. Work would take place in an enclosed space.
3. Necessary artificial lighting would add to the thermal burden.
4. Air movement would be minimal.

Management was advised of the updated risk assessment findings and a medical plan for risk mitigation of heat stress was requested.

Next Steps:

Review of industry good practice guidance documents confirmed the Wet Bulb Globe Temperature (WBGT) as the most widely accepted index of heat stress used to determine exposure limits that are considered safe for most people.<sup>1</sup> A suitable work-rest routine for the task could be defined based upon American Conference of Governmental Industrial Hygienists (ACGIH) research and reference tables.<sup>2 (p149-158)</sup>

A literature search identified the Health & Safety Executive's (UK) "Prevention of heat illness in mines" as being a useful source of practical advice and guidance.<sup>3</sup>

The baseline WBGT using the available Heat Index Meter WBGT – 101 (Kyoto Electronics) was measured at 12.00Hrs. Temperature and humidity are relatively constant in Nigeria during the rainy season. It was decided a one off set of baseline readings would provide adequate data on which to base risk mitigation planning.

5 representative areas were measured. The averaged result was 33° C. With the addition of lighting and welding, the extrapolated result would be higher, representing a significant heat burden, which would prove difficult to manage.<sup>2</sup> Therefore the WBGT was measured in identical locations at midnight. The average temperature was 24° Celsius.

Night work was proposed and accepted by management as providing a more easily managed thermal environment.

Work rate was estimated as moderate (300 Watts)<sup>2</sup>. All welders were local employees who were fully acclimatized. When welding the majority wore either T-shirts or stripped naked to the waste, therefore no ACGIH correction factor was required for this level of clothing.

A medical plan was developed and agreed with management on the basis of a 10-hour work shift (c.f. project standard 12 hours) to coincide with the coolest part of

the night; industrial fans would be strategically located to generate air movement of up to 1m/s.

Medical Plan:

1. Selection of welders and fitness assessment: all project employees had been medically examined at pre-employment stage to Company standards. A short review questionnaire was devised for involved welders to ensure fitness for work in hotter environments and night work.

Questions covered:

- Pre-existing medical conditions e.g. sickle cell, diabetes
- Medication
- History of previous heat illness
- Chronic skin disorders
- Current medical complaints
- Recent malaria
- Age
- Smoking and alcohol consumption

Basic Clinical examination:

- Body Mass Index
- Blood pressure
- Pulse & respiratory rate
- Visual acuity
- Urine analysis (dip stick urine test)

2. First Aid and Emergency Medical Response Team Training: training on the identification and management of heat related illness was provided. Potential increase in risk of accidents was highlighted due to night work and heat was discussed with the HSSE Team.

3. Education and Training: a mandatory tool box talk covering precautions to be taken, behaviours to adopt, the recognition of heat illness and actions to take was given. The need to report for medical assessment of fitness to work was emphasised for all feeling unwell prior to or during work. The ever-present risk of malaria was discussed. The importance of adequate hydration was emphasised. The message was to drink water frequently, even if not thirsty, and aim to consume 150 – 200mls of cool water every 20 minutes.

Progress:

A conservative initial work-rest regime of 45-minute work/15-minute rest regime was implemented.

The WBGT was measured hourly and the work – rest regime altered accordingly. The WBGT averaged 28.5° C with a work-rest routine of 30 minutes work/30 minutes rest.

The Site Safety Officers were responsible for managing the programme.

Outcome:

Work was completed on time, despite working reduced shifts. No medical cases of heat related illness occurred and no work-related accidents were recorded. Those with malaria were excluded from work.

Discussion:

This project emphasises that risk assessment and management is an ongoing, dynamic process and regular re-evaluation of health risks is vital.

It is a duty of all occupational health practitioners to be familiar with all potential hazards and risk associated with the work of their patients. One of the best ways is to

regularly visit the workplace, to become familiar with work processes and to take part in walk through inspections as part of the health and safety team.

It is challenging working in emerging countries where Health and Safety legislation and the ability to enforce standards may be in doubt. A practical approach is to implement recognised evidence-based international standards and world-best practice locally. International projects should clearly identify which health and safety standards will be applicable as part of the tendering process; however where there is doubt it is the occupational health physicians duty to ensure best practice and compliance with meaningful health standards.

#### **Workplace Project 2 References:**

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1. The International Association of Oil & Gas producers. OGP/IPIECA Health committee. *Health aspects of work in extreme climates: A guide for oil and gas industry managers and supervisors*. OGP Report No. 398. 2008.
  2. Aw TC, Gardiner K & Harrington JM. *Occupational health* 5<sup>th</sup> ed. Blackwell Publishing, 2007.
  3. United Kingdom: health and Safety Executive. Prevention of heat illness in mines, 2007.HSE on line: <http://www.hse.gov.uk/pubns/mines07.pdf>

## Workplace Project Three

### Background:

A 51-year-old male accountant was referred with a 3-month history of right wrist and elbow pain. Treatment by his General Practitioner had proved ineffective and his ability to work had been impaired by constant pain.

Examination revealed non-specific right forearm pain. His occupational history confirmed an office move approximately 2 months before onset of symptoms. This coincided with a period of high volume, high-pressure work.

A workstation assessment had not been performed in his new office. He reported problems with glare, an uncomfortable chair and increased time spent working without a break due to perceived work pressure.

There was no evidence of perceived adverse psychosocial factors (yellow flags).<sup>1</sup>  
(p295)

### Action Taken:

I suspected a Work Related Upper Limb Disorder (WRULD)<sup>1</sup> (p297) and reviewed his workstation, observing him at work. I questioned about time spent on various tasks. He denied significant home working with his laptop.

I performed a workstation risk assessment using the Health & Safety Executive (UK) VDU Workstation Checklist<sup>2</sup>

This risk assessment tool methodically assesses physical, psychological, hard and software-related factors, provides practical information and records action to be taken.

The following is a summary of the findings with recommendations given:

1. His chair was suitable for purpose but was not properly adjusted to the correct height. He was of short stature and could not comfortably rest his feet

flat on the floor if the chair was higher. His elbows were held at approximately 60° of flexion when typing. Recommendation: adjust to correct height and provide a footrest.

2. He used a docked laptop computer rather than a desktop machine. He used the laptop's display screen, which was too far away to be read easily and so he adopted a hunched position leaning forward to read the screen. Recommendation: a separate display screen should be provided and adjusted as per DSE regulatory Guidance<sup>2</sup>
  
3. Significant screen glare was noted due to positioning of his desk in relation to the window (to exterior). Relocation of his desk was not practical. Recommendation: Provide adjustable window coverings/blinds. An antiglare filter could be used as a temporary measure.
  
4. The keyboard was a standard model with the number pad located to the right of the keys. Much of his work was on the number pad which meant his right arm was deviated laterally away from the neutral position for significant periods. Recommendation: the provision of an ergonomic short keyboard and a separate number pad. This would allow use of the number pad with his arm operating in a neutral position.
  
5. The mouse was standard issue: Recommendation: provision of a wrist-neutral mouse.

I advised him to stop keyboard use until his symptoms were resolving. Timely physiotherapy was arranged using a private health insurance scheme. With consent, the diagnosis, functional impairment and likely aetiology were discussed with his Line Manager. The recommendations were confirmed in writing. Management was advised of their duty to report under RIDDOR regulations.<sup>3</sup> Adjusted duties were not operationally feasible and so he took sick leave. The recommended equipment was purchased.

The HSE manager was advised of the system failure to identify and manage ergonomic risks. Procedure was reviewed and modified. Employees were reminded to utilize the online workstation assessment tool available on the company HSE intranet site and given examples of when it would be prudent to perform the assessment.

Unable to identify published evidence-based rehabilitation guidance for WRULD I sought advice from senior colleagues. WorkPace<sup>4</sup> software was recommended. This programme monitors work intensity and exposure, indicates when micropauses and breaks are necessary, educates and guides exercise routines and provides feedback. Available evidence for its efficacy was presented to management. Purchase and installation was authorized.

He returned to unrestricted duties via a 3 week graduated rehabilitation programme. WorkPace continues to actively manage his computer work.

#### Discussion:

This case highlighted the lack of available evidence-based guidance on rehabilitation of WRULD and the lack of evidence-based guidance in occupational health generally. The practice of evidence-based medicine<sup>5</sup> is recognized good medical practice and provision of evidence supporting good practice is part of annual appraisal. It is important for occupational health physicians to be aware of sources of evidence-based medicine,<sup>6,7</sup> read the main journals and contribute to research.

Upper limb and neck pain are common and the HSE estimates a WRULD incidence of 186/1000 adults/year. Psychosocial factors (yellow flags) are important in determining chronicity. Early, aggressive medical management with physiotherapy coupled with competent risk assessment and management of ergonomic and psychosocial factors appears to be the consensus view for best practice.

WorkPace<sup>4</sup> (and similar software) may well prove to be a valuable and effective tool in the prevention and rehabilitation of WRULD, but objective evaluation is needed.

### Legal Context:

It is interesting to note that there are no legal provisions in the UK specific to the prevention of WRULD.<sup>1(p298-299)</sup>

### **Workplace Project Three References:**

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1. Smedley J, Dick F, Sadhra S, editors. *Oxford Handbook of Occupational Health*. Oxford University Press 2006.
  2. United Kingdom: Health and Safety executive. HSE L26 Work with display screen equipment (revised ed.). Health and safety (Display Screen equipment) regulations 1992 as amended by the Health and Safety (Miscellaneous Amendments) Guidance on regulations, 2003. HSE Publications.
  3. United Kingdom: The Reporting of Injuries, Diseases and dangerous Occurrences Regulations 1995. Statutory Instrument 1995 No. 3163. OPSI:  
[http://www.opsi.gov.uk/SI/si1995/Uksi\\_19953163\\_en\\_1.htm](http://www.opsi.gov.uk/SI/si1995/Uksi_19953163_en_1.htm)
  4. WorkPace Software: <http://www.workpace.com/Home>
  5. United Kingdom: General medical Council: Guidance on Good Medical Practice, 2006.
  6. United Kingdom: The Society of Occupational Medicine. On line:  
<https://www.som.org.uk/Home.13.0.html>
  7. United Kingdom: NHS Plus: Guidelines. On line:  
<http://www.nhsplus.nhs.uk/providers/clinicaleffectiveness-guidelines.asp>

## Workplace Project Four

### Background:

An oil company Health, Safety & Environment (HSE) Manager reported a cluster of cases of skin rash affecting a number of employees working in an administrative unit of their office building and requested medical guidance.

I requested further information including:

- Number of employees affected
- Total number of employees
- Names and contact details
- Time line since first case reported
- Any similar symptoms reported elsewhere
- Any indicated diagnosis
- Related sickness absence details
- The results of any inspections or investigation
- Length of time office had been operational
- Dates of last recorded redecoration, structural or maintenance work performed
- Employees concerns or thoughts on the cause

9 out of 22 employees had complained of an itchy red skin rash on their trunk and arms. No sickness absence had been taken but all had attended their general practitioner. No clear diagnosis had been made. The first case occurred 6 weeks prior, the rest following after 10 days at 2 to 3 day intervals. No other complaints from other floors had been received. The skin condition appeared to last a variable length of time. The office had been operational for 6 years and worn areas of carpet had been replaced 10 months prior. Heating and conditioned (cool) air was provided via a building-wide system controlled centrally. The filters, ducting and machinery were maintained regularly as per manufacturer's recommendations. The local company HSE Supervisor had checked the maintenance records and performed a

walk through inspection. He could find no obvious cause. All were concerned about a possible work-related cause.

I arranged to visit the office and investigate.

The planned investigation included the following:

1. Medical review and examination of all affected employees
2. Walk Through Survey focussing on:
  - Physical & environmental factors
  - Chemicals
  - Bio-aerosols
  - Psychosocial factors

I developed a risk assessment survey checklist to address potential aetiological factors base upon a literature review.<sup>1,2,3</sup>

Potential risk factors included:

- Humidity
- Ambient temperature & control
- Air conditioning: use of biocides/microbial contamination
- Lighting level
- Nuisance dusts
- Infestation (mite)
- Ergonomic factors
- COSHH/Health Risk/RIDDOR assessment documentation review
- Maintenance records review

All staff was informed of the reason for the visit and the affected individuals invited for medical review.

Medical review findings:

All affected were female. Only one still had minor symptoms of itch affecting her arms but no observable rash.

The rash was described consistently as a red, itchy macular (3 – 4 mm) rash affecting trunk and arms. Macules were relatively few in number (perhaps 10 – 20 on the abdomen). The rash started abruptly and lasted between 1 and 3 weeks. The only common factor to all was work within the office with no obvious clustering based upon location. Some had been treated with simple aqueous cream, others by hydrocortisone cream.

Common symptoms of Sick Building Syndrome (SBS) were not reported.<sup>2</sup> And no complaints regarding environment made.

5 had worked in the same office for 6 years, 2 had joined within 18 months and the most recent had joined 4 months prior.

The consensus view was of a perceived significant increase in work pressure and less management support over 6 months, coinciding with a new line manager.

Sickness absence rates had remained static for 3 years (confirmed by Human Resources)

Walk Through Survey:

The local HSE Supervisor and building facilities manager accompanied.

A methodical review of the affected office and pertinent records was performed utilising the survey checklist.

No obvious risk factors were identified.

COSHH<sup>4</sup>, RIDDOR<sup>5</sup>, Health Risk Assessment<sup>6</sup> and maintenance documentation was reviewed and found to be complete and up-to-date.

The carpet had been repaired in 4 areas. This occurred 10 months prior. The adhesive used had been covered in the COSHH assessments.

Inspection of the floors above and below revealed no obvious health issue. Areas of carpet had also been replaced at the same time using the same product.

Outcome and Advice:

No obvious physical risks to health were identified. Positive findings were psychosocial in nature (perceived stress).

I recommended formal occupational hygienist assessment, focussing on humidity, air quality, lighting and for volatile organic chemicals.

The identified psychosocial factors were highlighted and management advised to address them.

Employee communication confirming medical review and investigation had not identified any work-related factors was recommended, but with the aim of reassurance formal tests had been arranged, the results of which would be shared with them.

Progress:

Humidity at the lower end of “normal” was the only issue identified.

The employees were strongly reassured and advised to contact the occupational health department if any health concerns recurred.

Plants were introduced to increase humidity.

Management addressed the perceived work-related issues with the Line Manager.

No further skin rashes were reported.

Discussion:

It is possible that an infectious skin condition was responsible for the rash. The symptoms and described rash would fit a diagnosis of Pityriasis Rosacea, however the short time course to resolution does not support this.

A 2006 study<sup>7</sup> concluded that the psychosocial work environment was more important in the aetiology of SBS than the physical environment of the office. With this in mind it might be prudent to screen all those with symptoms of possible SBS with a validated stress assessment tool (e.g. the HSE Stress Indicator Tool)<sup>8</sup> as part of the initial medical review.

It is clear that occupational health practitioners have an important role in assessing and managing SBS, irrespective of potential cause.

**Workplace Project Case 4 References:**

1. United Kingdom: Health and Safety Executive. How to deal with SBS: Guidance for employers, building owners and building managers, 1995. (HS(G)132)
2. United Kingdom: Health and safety Executive. Health and Safety Executive operational Circular. Field Operations Directorate. OC 311/2 (Rev). Sick Building Syndrome. HSE on line: [http://www.hse.gov.uk/foi/internalops/fod/oc/300-399/311\\_3r.pdf](http://www.hse.gov.uk/foi/internalops/fod/oc/300-399/311_3r.pdf)
3. United Kingdom: NHS Choices. Sick building syndrome. On Line: <http://www.nhs.uk/conditions/Sick-building-syndrome/Pages/Introduction.aspx?url=Pages/what-it-is.aspx>
4. United Kingdom: The Control of Substances Hazardous to Health Regulations 2002. Statutory Instrument 2002 No. 2677. <http://www.opsi.gov.uk/si/si2002/20022677.htm>
5. United Kingdom: The Reporting of Injuries, Diseases and Dangerous Occurrences regulations 1995. Statutory Instrument 1995 No. 3163. [http://www.opsi.gov.uk/SI/si1995/Uksi\\_19953163\\_en\\_1.htm](http://www.opsi.gov.uk/SI/si1995/Uksi_19953163_en_1.htm)
6. United Kingdom: The Management of Health and safety at Work regulations 1999. Statutory Instrument 1999 No. 3242. <http://www.opsi.gov.uk/si/si1999/19993242.htm>
7. Marmot AF, Eley J, Stafford M, Stansfield SA, Warwick E, Marmot MG. Building health: an epidemiological study of “sick building syndrome” in the Whitehall II study. *Occup Environ Med.* 2006 Apr;63(4): 283-9.
8. United Kingdom: Health and Safety Executive. HSE Management Standards Stress Indicator Tool – User Manual. HSE on line: <http://www.hse.gov.uk/stress/standards/pdfs/indicatortoolmanual.pdf>

## Workplace Project Five

### Background to Project:

As Company Medical Officer to a UK-based Oil & Gas exploration company I was asked to survey a drilling rig being leased for exploratory work off Trinidad. The goal was to ensure health care facilities and proposed medical service complied with company-adopted global standards. <sup>1,2</sup>

I recommended review of local medical providers in Trinidad to ascertain the level and quality of medical care available for routine and emergency care of the offshore personnel during the project. This was agreed as part of the audit so that a medical topside service could be identified and emergency response plans developed.

No appropriate audit tool was available and so it was necessary to develop one.

### Actions Taken:

Copies of pertinent Guidelines and Regulations were procured and reviewed.<sup>3-5</sup> Offshore Medical Facility and Local Medical Service Provider Assessment survey tools were designed based on these.

The Offshore Medical Facility Audit incorporated statutory and best practice requirements regarding fitness for offshore work, sickbays, their arrangement, equipment, facilities and core drug inventory. The document covered:

1. Introduction: installation details and key personnel.
2. Check-in and Arrival Offshore Procedures: covering security, medications and substance abuse procedures and arrival offshore briefing.
3. Medical Fitness Standards used.
4. Offshore Medics: medic details, training, experience, qualifications, medical and non-medical tasks performed, physician support and standing orders, protocols and offshore regulations, confidentiality and health promotion.
5. Emergency Medical Response: sick bay, triage area, equipment and consumables, topside emergency cover, medical evacuation, procedures for sudden death offshore and presence of written protocols for triage and

management of single and multi-casualty scenarios and first aid support.

Identified onshore facilities.

6. Sick Bay: Assessment of fitness for purpose
7. Medical Equipment and Furnishings: as per core recommendations
8. Medications and Intravenous Fluids: ordering, dispensing and disposal of medications including controlled drugs.
9. Infectious Diseases: disposal of clinical waste, history of infectious disease outbreaks. Biological sampling and infectious disease outbreak management protocols
10. Occupational health: knowledge of medic and recording system. HSE Regulations (or equivalent) implemented; eye wash stations and chemical showers and personal protective equipment. Employee education programmes.
11. Medical and other Records: security, confidentiality.
12. Recommendations: A detailed report and recommendations.

The Medical Service Provider Assessment tool was designed to be sufficiently flexible to assess quality and range of health care provision in primary and secondary health care facilities.

A standardised approach to assessing and recording medical provision was adopted and included:

1. 24 hour contact details.
2. Medical and diagnostic services available.
3. Training and qualifications of staff.
4. Quality assurance programmes in operation.
5. Proximity to city centre, heliport and airport.
6. Languages spoken.
7. Communications (reliability).
8. Level of emergency and trauma medical care.
9. ITU/CCU availability.
10. Availability of screened (safe) blood.

A thorough “walk-through Inspection” of the Medical facilities was incorporated into the survey and review of documentation expected.

The medical provider was then assigned a rank with regard to the company’s needs. The classification system was as follows:

- Level 1: Preferred medical provider - service and quality of care of international standard.
- Level 2: Service and quality acceptable but not of international standard. For use in mass casualty scenario only.
- Level 3: Service and quality of unacceptable standard. Could be used in mass casualty situation for “walking wounded” only.

The local HSE representative identified medical service providers and a 4-day programme of audit on and offshore arranged.

The HSE Manager was provided written reports covering both audits on my return to the U.K. Local management had been briefed prior to departure.

Key issues identified during the offshore audit included:

- Inadequately trained and experienced offshore medics
- Malfunctioning manual defibrillator in sickbay
- Out-of-date controlled drugs present in sickbay
- No established drug or clinical waste disposal procedure
- Medications and consumables out of date and of Norwegian origin (no English translation)
- No appropriate medic standing orders, written procedures or reference manuals.
- Inadequate number of trained first aiders on board
- No established on board emergency response plan
- Medical records were not stored securely

- Lack of first aid kits or medical packs maintained at strategic locations on the rig for emergency use
- Chemical showers and eye wash stations were non-functional
- Inadequate levels of medication and intravenous fluids for number of personnel on board

Appropriate recommendations were included in the report.

Key primary and secondary medical facilities of international standard were identified during the medical provider audit. Two “level 1” primary health care practices, one with dental services, were identified. Both teams were willing to provide 24-hour topside medical emergency advice for the rig medics.

Two “Level 1” hospitals with a wide range of in and out patient services were identified. Both with around 150 beds, with highly trained local and expatriate staff. Neurosurgery, intensive care and a burns unit were available.

Recommendations for mass casualty handling were made based upon casualty numbers, triage score and hospital ranking.

Discussion:

Offshore oil and gas installation audit in UK coastal waters performed by occupational health physicians experienced in the oil & gas industry is routine and there are many survey checklists in use, all based upon Regulatory standards.<sup>2</sup> In the UK there is generally no need to survey onshore primary and secondary health care facilities and it is a matter of routine to define Emergency Medical Response Plans (EMRP). In most of the world there is a wide variability in the quality and range of medical services available and so it is essential to assess those available for quality and capability when writing EMRPs.

Oil and gas companies frequently adopt the most stringent internationally recognised health and hygiene standards available and apply them to their operations irrespective of location. Where local medical care is inadequate, there is a need to

provide a robust, self-sufficient medical service to provide primary and emergency health care services.

The occupational physician working in the oil and gas sector needs to be capable of assessing local health care services, investigating local prevalence of diseases and country-specific risks and be prepared to visit remote and challenging locations to ensure policies and procedures for dealing with all medical eventualities are in place.

#### **Workplace Project Five References:**

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1. United Kingdom: Oil & Gas UK. Medical Aspects of Fitness for Work Offshore: Guidance for examining Physicians. Issue 6, March 2008
  2. United Kingdom: The Offshore Installations and Pipeline Works (First-Aid) regulations 1989. Statutory Instrument 1989 No. 1671.
  3. United Kingdom: Oil & Gas Guidelines for Security at helicopter Terminals.
  4. United Kingdom: Oil & Gas UK. First Aid and Medical equipment on Offshore Installations.
  5. United Kingdom: Health and Safety Executive. HSE Offshore Installations and Pipeline Works (First-Aid) Regulations 1989. Approved Code of Practice.

## Workplace Project Six

### Background to Project:

A 32-year old Yemeni man who worked as a fuel tanker truck filler at the central processing unit (CPU) of an oil production company presented with a 1-year history of eye, nose and throat irritation. He complained of tiredness, dizziness and frequent headaches. These symptoms only occurred when he was at work. Within a few days of returning home for his field break, he was asymptomatic.

The CPU was located in the Yemen desert close to the “Empty Quarter”. Employees worked a month on/month off rotation. He had worked in this role for 18 months and believed his symptoms were due to the fumes he was exposed to at work. His manager had reportedly ignored his concerns. His duties required him to climb on top of the fuel tankers, manually operate the fuel pump and guide the transfer hose into the tanks. As there was no fuel gauge, he had to judge when each fuel cell was full visually, thus increasing his potential exposure to hydrocarbon vapour. He was required to supervise the filling procedure at all times, standing beside the product transfer hose. Ambient heat was high all year round (up to 55° C).

Clinical examination was unremarkable and full blood count and liver function test results were within normal limits.

### Actions Taken:

Concerned about potential significant hydrocarbon vapour exposure I arranged to observe him at work to evaluate potential risks to health. I invited the operations manager and health and safety officer to assist and to explain the process, provide technical input and advice.

I requested the existing risk assessment and material safety data sheets. These were not made available.

A workplace inspection of the fuel loading facility was performed. The tanker loading procedure was observed from start to finish of the process. The inspection was documented methodically<sup>1(p206210)</sup> and information recorded included:

Background information:

- Department inspected
- Purpose of inspection
- Inspection conducted by
- Date of inspection

Inspection checklist:

1. Plant, process, materials

- Site plan
- Processes
- Tasks
- Hazards
- Materials
- Control measures (engineering/administrative and Personal Protective Equipment [PPE])

2. Personnel:

- Workforce exposed and number
- Hours worked and shift patterns

3. Records and actions:

- Hazards: type, location, number exposed
- Risks to health
- Agreed list of actions
- Resources required

Findings:

The loading facility consisted of 3 steel-framed, pitched roof, open-sided buildings set on a concrete base. Each could accommodate two tankers side-by-side. One unit was for loading petroleum, one for diesel and the third fuel oil. Each facility had appropriate fixed fire protection.

The product was transferred from the refinery to the appropriate storage tanks, and then via a metering facility by manually worked transfer pumps. Product was pumped into the trucks using a large metal transfer hose with nozzle.

An average tanker contained 4000 – 6000 gallons (US), had three cells each taking 20 minutes to fill. On average 40 tankers used the facility each day. 20 men worked on rota (12 hour shifts) filling the tankers. Each man had to stand upon the tanker, operate the pump and transfer hose by hand. The nozzle was placed into the empty cell, and while filling, the operator stood “upwind”, monitoring progress. Once a cell was full, assessed by bending down and peering into the cell, the hose was moved to the next cell and the process repeated. Employees wore hard hats, safety glasses and safety boots.

The potential to be exposed to significant concentrations of hydrocarbon vapour (including benzene) over a 12-hour shift was evident. A hand held gas and oxygen tester with portable pump, confirmed the presence of significant concentrations of hydrocarbon vapour in the breathing zone at the time of the assessment.

Accident statistics for the unit were examined and compared with those of the project. No significant difference was noted.

I confirmed with the operations manager and HSE officer that there was likely a significant health risk due to inadequately assessed and poorly controlled exposure to petroleum hydrocarbon vapour. The risks included acute intoxication and chronic effects, particularly due to benzene (an IARC Group 1 carcinogen).<sup>2</sup> A formal report to senior management was made with the following recommendations:

1. Urgent assessment of 12-hour time weighted exposure to (petroleum) hydrocarbon vapour by an occupational hygienist; to specifically include benzene exposure measurements.
2. Occupational physician clinical review of all potentially exposed employees (to include full blood count and liver functions tests). N.B. screening for urinary phenol or t,t-muconic acid as a biological index of exposure to benzene was not available in Yemen.
3. Immediate (temporary) measures to control exposure pending formal assessment included:
  - Administrative control: employees to work 6 hours (one hour on, one hour off)
  - Provide rubber seals on loading nozzles to fit tank openings to reduce vapour release
  - Provide a dipstick to enable the operator to ascertain the liquid level without placing his head over the tank hatch
  - Close each hatch cover when each cell was full
  - Identify and implement local exhaust ventilation measures

Outcome:

Formal occupational hygiene assessment was performed and confirmed a time-weighted average exposure to benzene over twice the (then) OSHA Permissible Exposure Limit.<sup>3</sup>

This was reported to the Ministry of Oil and Mineral Reserves (MOMR). A bottom loading, vapour recovery system was recommended by the occupational hygienist. The exposed employees were referred to MOMR physicians for assessment and health surveillance.

Discussion:

This case illustrates the need for competent health risk assessments for all work tasks and demonstrates the value of maintaining proper risk assessment records. It also emphasises the benefit of occupational health physician familiarity with work and the worksite and underscores the value of work site inspection and a high index of clinical suspicion.

The inability to provide risk assessment records demonstrated a failure of the occupational health and safety management programme at a fundamental level. The project was operating to OSHA standards as Yemeni Health and Safety Law was poorly developed and poorly enforced. Recognised international health and safety standards are only effective if properly implemented and managed through rigorous audit. This point was raised with senior management and a high-level HSE review planned.

It was unlikely in my view, that the benzene-exposed employees would have appropriate long-term health surveillance provided by the MOMR, nor would they likely have any recourse for compensation should they become ill due to previous benzene exposure.

#### **Workplace Project Six References:**

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1. Aw TC, Gardiner K, Harrington JM. *Occupational Health* 5<sup>th</sup> ed. Blackwell Publishing, 2007
  2. International Agency for Research on Cancer. IARC Monographs on the Evaluation of Carcinogenic Risks to Humans. IARC Monographs supplement 7 – Benzene (Group 1). <http://monographs.iarc.fr/ENG/Monographs/suppl7/Suppl7-24.pdf>
  3. United States of America. Occupational Safety & Health Administration. Benzene. – 1910.1028. On line: [http://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=STANDARDS&p\\_id=10042](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10042)

## Workplace Project Seven

### Background to Project:

An oil company, which had recently commenced operations in UK waters, requested medical input into defining and operating a drug and alcohol-testing programme.

Senior Health, Safety & Environment (HSE) and Human Resources (HR), the Offshore Operations Manager, company legal advisor and I formed a steering group to establish the scope, application of testing, and define the critical elements of the programme.

I reviewed current medical good practice and industry guidelines on drug and alcohol testing in the workplace.<sup>1-3</sup>

I presented the scale of drug and alcohol misuse in the U.K.<sup>4</sup> and advised that a significant percentage of employees would likely be using recreational (illegal) drugs or misusing alcohol. I championed broadening our remit to develop a Drug and Alcohol Policy promoting a positive, practical approach to managing substance misuse in the workplace, encouraging those with problems to come forward for help, but inclusive of drug and alcohol testing for safety critical positions. Following healthy debate within the steering committee, senior management endorsed this approach.

Prior to developing the policy, legal and ethical considerations were debated by the steering group. It is a legal obligation to consult with employees and their trade union representatives during the development and introduction of a policy.<sup>5</sup> There were no trade unions active in the company and so elected company safety representatives were invited to join the working group.

During the debate some of the key areas I advised on included:

- The need for any policy involving testing for alcohol and drugs to observe the provisions of the Data Protection Act 1998<sup>6</sup>

- Addiction to any substance is not a disability under DDA but tribunals tend to regard it as an illness which should be treated, at least if the employee confesses to misuse and is willing to undergo treatment.<sup>7</sup>
- The occupational physicians responsibility to maintain appropriate knowledge of alcohol and drug misuse, keeping abreast of new developments, to audit policy performance and maintain good quality information to comply with good medical practice and clinical governance.<sup>1</sup>
- Medical staff involved in processing and reporting of test samples must avoid giving medical advice to individuals, to avoid confusing their testing and occupational health role.<sup>1</sup>
- Medical practitioners must avoid participating in any disciplinary procedures arising from testing for alcohol or drug misuse to avoid compromising their medical relationship with employees.<sup>1</sup>
- The testing procedure must be undertaken fairly and consistently, avoiding discrimination and respecting employee privacy.
- Test results must only be passed to an appointed medical review officer (MRO).
- The MRO must limit communication with the manager to the fact that a result is positive.

Advice specific to drug and alcohol testing included:

1. The need for competent collection of specimens.
2. Sample collection must follow a strict procedure ensuring chain of custody for evidential testing.
3. The need to select a laboratory accredited for Workplace Drug testing by an external accreditation body working to European Laboratory Guidelines for Legally Defensible Workplace Drug Testing 2002 guidelines and conforming to ISO 17025 for quality assurance.<sup>3</sup>
4. Drugs of misuse prevalent in society should be tested for with appropriate cut-off concentrations identified.
5. All results must be reviewed and interpreted by an MRO.

6. Point of contact breath alcohol testing should be performed to evidential standards following strict protocol for calibration and sampling.
7. Each step of the chain of custody must be capable of audit, enabling tracking and validation of the integrity of the sample.
8. The preference to have all testing performed by external staff to avoid any role conflict within the occupational health team.
9. Consent to test and consequences of refusal to test must be defined.

Key contractor and supplier representatives were invited to contribute to policy development.

The following was agreed as Policy:

For mandatory drug and alcohol testing:

- Safety critical roles at pre-employment and pre-placement health assessment
- For cause post incident or on suspicion of being intoxicated at work
- Random testing to be performed at the heliport on workers deploying or returning (subject to an acceptable method of generating genuinely random testing being identified)
- Refusal to test would be considered a disciplinary offence and subject to dismissal
- Testing positive at pre-employment assessment would prevent employment
- Testing positive on testing for any other reason would result in dismissal
- Employees in safety critical roles advising management of an alcohol or drug problem would be offered rehabilitation
- Employees in safety critical roles completing a monitored treatment programme considered for offshore work subject to an ongoing programme of random, unannounced drug & alcohol testing
- Any rehabilitation programme must be supervised and managed by an Oil & Gas UK registered physician

General provisions:

- All employees with a drug or alcohol problem encouraged to seek help from occupational health
- Management to ensure availability of sick leave and job security so long as employee complies with specialist advice and treatment
- Compliance with treatment and monitoring of progress with management reports to be performed by occupational health
- Employees with safety critical roles requesting help to be temporarily relocated during treatment

A breath alcohol of level zero was set (within the confines of machine error) to comply with a “Zero Tolerance” approach to health and safety.

The policy was drafted under the following headings:

- Introduction
- Purpose of the Policy
- Application
- Rules on alcohol and drugs at work
- Disciplinary action
- Available help
- Action by managers and supervisors
- Testing for alcohol
- Testing for drugs

Implementing the Policy:

Following Policy endorsement, a 9-month period for implementation was identified. A series of presentations to inform, educate and invite dialogue were run on and offshore. I co-presented and covered the societal prevalence of alcohol and drug misuse and the attendant health and safety risks. The routes available to access medical were clearly advised.

A 6-month period of notice of policy implementation was given and all those with an alcohol or drug problem encouraged to seek medical assistance before testing was introduced.

HR addressed contractual amendments and managers were trained in the identification of drug and alcohol problems and policy.

I identified an ISO 17025 accredited laboratory service, which supplied all necessary collection personnel, training, documentation and access to an MRO.

Occupational physician audit of the Drug and alcohol policy was incorporated into the regular HSSE audit schedule.

Discussion:

A good policy requires a written statement of intent and commitment, clarifying its scope and purpose, responsibilities and authorities, definition and procedures, documentation to be used and reference base. Following frequent and open consultation with affected parties and their representatives, and with advising specialists (including OH and lawyers), management are responsible for drafting policy, implementation and subsequent monitoring and evaluation.

A good working knowledge of legal, ethical and medical issues pertaining to alcohol and substance misuse is essential for the practicing occupational physician.

### Workplace Project Seven References:

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1. United Kingdom: Faculty of Occupational Medicine. *Guidance on alcohol and drug misuse in the workplace*, July 2006.
  2. International Association of Oil & Gas Producers. Substance abuse: guidelines for management. Report no. 6.87/306, June 2000. OGP.
  3. European Laboratory Guidelines for Legally Defensible Workplace Drug Testing. EDWTS, 2002.
  4. United Kingdom: National Statistics. The Information Centre. *Statistics on Drug Misuse: England*, 2007. On line: <http://www.statistics.gov.uk/default.asp>
  5. United Kingdom: *The Health and Safety (Consultation with Employees) Regulations 1996. Statutory Instrument 1996* no. 1513.
  6. United Kingdom: Data Protection Act 1998. OPSI: [http://www.opsi.gov.uk/Acts/Acts1998/ukpga\\_19980029\\_en\\_1](http://www.opsi.gov.uk/Acts/Acts1998/ukpga_19980029_en_1)
  7. United Kingdom: The Disability Discrimination Act 1995/2005. OPSI: [http://www.opsi.gov.uk/Acts/acts2005/ukpga\\_20050013\\_en](http://www.opsi.gov.uk/Acts/acts2005/ukpga_20050013_en)

## **Workplace Project Eight**

### Background to Project:

At routine health surveillance, a 41-year old employee had an audiogram suggestive of noise induced hearing loss (NIHL) which exceeded the warning level.<sup>1(p468-9)</sup> Surveillance was necessary as he periodically acted as a watchman for his colleague operating the blast cabinet. He denied relevant exposure outside of work. Subjectively he was unaware of any hearing loss.

He admitted to using only intermittently the provided earplugs. He was advised on the importance of using the PPE provided to minimise the risk of further damage and provided with a leaflet for further information.<sup>2</sup>

There are many hazards associated with the use of a blast cabinet but I have concentrated on the noise hazard.

I reviewed the risk assessment for noise exposure associated with use of the blast cabinet.

### The Process

Large metal objects which need cleaning of paint or rust are blasted using an abrasive media (commonly aluminium oxide) mixed with a jet of pressurised air at 80 psi within a walk-in cabinet. The cabinet measures approximately 2m<sup>2</sup>. Entry is via double doors electronically linked to the compressed air supply, ensuring the blast stream is halted if the door is inadvertently opened. The cabinet is located within a dedicated room. Due to the varied hazards, lone working is not permitted and a watchman must maintain visual contact with the operator through a sight window. Only one employee is trained in the cabinet's use.

## The Hazards Identified

### Physical:

#### (1) Noise.

The noise inside and in the immediate vicinity of the blast cabinet is greater than 85 dB (A) when it is in use. No noise measurements were available. Exposure to loud noise is known to be associated with a range of subjective health effects but the most important is NIHL, which can be measured objectively.

The Health and Safety at Work Act 1974 imposes a general obligation on employers to protect the health, safety and welfare of employees at work. The Management of Health and Safety at Work Regulations 1999 require employers to perform risk assessments where there is any identified risk to the health and safety of employees or others. Specific duties relating to noise exposure are contained within The Control of Noise at Work Regulations 2005. Under the latter 85dB (A) is the upper exposure action value (EAV). At this threshold the employer is obliged to conduct a formal risk assessment, eliminate or reduce noise as far as possible, provide and maintain suitable hearing protection and ensure its use and inform, instruct and train the employees on the hazards, risk and control measures.

Health surveillance should be provided for those to whom there is a risk to health and those regularly exposed to noise above the upper EAV. The purpose of hearing surveillance is to monitor the effectiveness of the hearing conservation programme.

There is a hierarchy of control measures. The first step would be to eliminate the exposure if this is practical or reduce the noise level if avoidance is not possible. In this example, the blast cabinet is old but replacement is unlikely to be feasible due to the cost implications. The cabinet is located in a dedicated room designated as a noise hearing protection zone, minimising the number of employees at risk. The operator and watchman are provided with ear plugs. Three-yearly audiometry is part of a health surveillance programme. Only one operator is trained in the use of

the blast cabinet; training other employees in its use would reduce the exposure time for that individual.

Noise dosimetry would allow specific measurements to guide the provision of appropriate hearing protection.

Other hazards arise from:

(2) Dust constitutes a hazard to skin from abrasion and the respiratory system from inhalation. Dust is contained within the cabinet by the use of a negative pressure filter system. The operator wears an air-fed hood, supplied with breathing quality air at positive pressure. Outlets from the cabinet are filtered to prevent dust entering the work environment. The operator is required to wear PPE for protection from the blast stream.

(3) Heat. The combination of wearing full body PPE, being inside an enclosed cabinet and exposed to the heat generated from the process results in a risk of heat injury. This risk is increased in hot weather. Regular breaks with provision of refreshments are needed to mitigate this risk.

(4) Manual handling risks are minimised by use of a gantry crane to manoeuvre equipment into place and appropriate training is provided.

(5) Trip Hazard. All equipment must be stowed away and walkways left clear to reduce this risk.

#### Chemical

(1) Aluminium Oxide (Bauxite). The Control of Substances Hazardous to Health (COSHH) Regulations 2002 are relevant to the use of Bauxite. Fibrosis of the lungs is associated with repeated exposure and there are workplace exposure limits governing the level of permitted exposure.

Other chemical hazards may arise depending on the nature of the object being blasted and the material being cleaned off, e.g. paint or rust. These would need to be dealt with on an individual basis.

#### Discussion

There are many hazards inherent in the use of the blast cabinet but full discussion of these is beyond the scope of this assessment. I have focused on the issue pertaining to noise.

Hearing impairment is a significant cause of disability with many and varied social and economic consequences. Hearing conservation programmes are an important part of minimising the risk of disability due to hearing impairment. Legislation exists to formalise the requirement for employers to assess the risks and protect employees.<sup>3</sup> Employees need to be fully aware of the reason for compliance with adequate education and training.

#### **Workplace Project Eight References:**

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1. Smedley J, Dick D, Sadhra S, editors. *Oxford Handbook of Occupational Health*, 2006. Oxford.
  2. National Institute on deafness and Other Communication Disorders. *Noise Induced Hearing Loss*. On line: <http://www.nidcd.nih.gov/health/hearing/noise.asp>
  3. United Kingdom: *The Control of Noise at Work regulations 2005*. Statutory Instrument 2005 No. 1643.

## **Workplace Project Nine**

### Background to Project:

An international company was renovating newly acquired offices in former Soviet Republic. Paintwork was being scraped off brickwork by hand. After a week expatriate employees expressed concern that the paint might contain asbestos.

I was asked to provide medical advice.

The office had remained functional while renovation work was carried out. The work was limited to the ground floor with 12 people working adjacent to the renovation area. The work area was essentially open, with only partial separation with plastic dust sheeting.

I asked for a map of the office and digital photographs of the work area on ground floor office. Location of all employees within the office, ventilation and heating system details and a detailed description of the work carried out to-date were requested.

Work had commenced 5 days previously with 2 tradesmen using hand scrapers for 4 days and low speed sanding equipment intermittently on day 5. The workday was 7 hours.

Concern about potential asbestos exposure was generated by local employees and picked up on by the expatriate office manager.

### Actions:

Any potential exposure to asbestos (if present) appeared to be extremely low and employees were reassured. However, work was halted and 5 random flake samples were sent to a United Kingdom Accreditation Service-approved specialist asbestos contractor in England.

Chrysotile fibres were detected. Unable to sample for airborne fibres, 20 wipe/dust samples were taken from around the ground floor office ceiling and sent for analysis. Positive samples were found throughout the ground floor office with traces of chrysotile fibres in 14 samples, one of which also contained some amosite fibres. 6 samples were clear.

Management was advised that my assessment indicated that level of exposure was likely to have been extremely low over 5 days; fibres were not found in a significant proportion of wipe/dust samples, the fibres were in a bound form (i.e. in paint), and hence largely outside the respirable fraction. Fibres were also predominantly chrysotile (only one sample contained amosite fibres), widely regarded as the least bio-resistant of the fibre types<sup>1,2</sup> and hence least pathogenic. However the level of anxiety in involved employees was very high and management wanted me to “arrange some health surveillance”.

I visited the site and arranged a meeting with the employees and management.

The potential consequences of asbestos exposure were explained, including mesothelioma and bronchial carcinoma.

The concept of an exposure-effect relationship was introduced, and the factors previously described were used to justify the exposure in question (and hence risk) being categorised as extremely low. To put the risk in context I explained that asbestos fibres in appreciable quantities<sup>3</sup> are a normal finding in the lungs of city dwellers, and that any fibres that may have been inhaled at the site were likely to represent a tiny fraction of their lifetime exposure to asbestos.

Other asbestos-related diseases were explained, such as asbestosis and pleural thickening, but that these were associated with sustained rather than brief exposures.<sup>1</sup>

Eight employees smoked, and this was used as a means of illustrating how perception of risk is often heavily influenced by familiarity with the hazard in question.

A variety of health surveillance methods have been used in asbestos-related diseases (e.g. serial chest radiography, spirometry or sputum analysis for asbestos bodies)<sup>4(p136)</sup> and their potential role discussed. I emphasised the extremely low risk associated with this exposure and the fact surveillance itself could be detrimental by perpetuating anxiety and exposing those undergoing serial x-rays to ionising radiation.

After discussion the group agreed that health surveillance would not, on balance, be of benefit. I ensured that entries were made in the relevant personnel files, as well as the occupational health records, describing the incident.

Conscious that national health regulations had to be complied with I liaised with the Director of Public Health and explained the incident and advice. I was advised that a formal investigation of the risk would be performed and health surveillance implemented if necessary as per national regulations but that this would apply to national employees only. I shared the results of the investigation and provided a translated copy of my case report.

#### Discussion:

Companies with international interests must be aware of and comply with local health and safety regulations. Differences in philosophy and approach in international settings must be managed by these companies. In my experience, many emerging world countries have legislative requirements, which are complicated, prescriptive and out-of-date and rarely apply to national concerns. The key in ensuring compliance is to appoint appropriate local expertise to act as a bridge between corporate best-practice policy and procedure and local requirements and practicalities. In this case I was fully licensed to practice medicine in this country having lived and worked there previously on a large international project. I had forged a positive relationship with the Ministry of Health previously.

The challenges of life and work in emerging countries, where infrastructure is poor and health resources inadequate, often cause disproportionate anxiety in expatriate employees. This case would likely have caused employee anxiety anywhere in the world, but was probably amplified here due to other psychosocial factors. Adequate support and resources need to be provided for all employees working internationally,

based upon a thorough risk assessment of the country, work and resources available locally.<sup>5 (App.5)</sup>

Finally, the latent period between asbestos exposure and development of disease is typically 20 to 40 years.<sup>6,7</sup> Any health surveillance programme following an inadvertent exposure of this sort, if initiated, would inevitably need to be of indefinite duration. This would maintain anxiety levels regarding possible ill effect out of proportion to the real level of risk, and would introduce risk from ionising radiation if serial radiography were employed.

The potential benefit of such a programme would be minimal, considering the extremely low probability of any adverse effect occurring and the very limited scope for intervention even if one were to be detected as mesothelioma is almost invariably incurable.<sup>8</sup> The timing of surveillance would need to be particularly fortuitous for lung cancer to be detected at a curable stage. It is difficult therefore to make a convincing case for health surveillance following a brief, inadvertent exposure to asbestos such as this.

#### **Workplace Project Nine References:**

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1. Bofetta P. Health effects of asbestos exposure in humans: a quantitative assessment. *Med Lav* 1998 Nov-Dec; 89(6):471-80.
  2. Landrigan P, Nicholson W, Suzuki Y, Ladou J. The hazards of chrysotile asbestos: a critical review. *Ind. Health* 1999;37(3):271-80.
  3. Berry G. Asbestos Lung Fibre Analysis in the United Kingdom, 1976-96. *Ann Occup Hyg* 2002;46(6):523-526
  4. Aw TC, Gardiner K, Harrington JM. *Occupational health* 5<sup>th</sup> ed. Oxford: Blackwell Science; 2007
  5. Palmer KT, Cox RAF, Brown I, editors. *Fitness for Work - The Medical Aspects*. 4<sup>th</sup> ed. Oxford University Press 2006.
  6. Niklinski J, Niklinska W, Chyczewska E et al. The epidemiology of asbestos-related diseases. *Lung Cancer* 2004;45 Suppl 1:S7-S15
  7. Luo S, Liu X, Mu S et al. Asbestos related diseases from environmental exposure to crocidolite in Da-yao, China. I. Review of exposure and epidemiological data. *Occup Environ Med* 2003; 60(1):35-41
  8. Treasure T, Sedrakyan A. Pleural mesothelioma: little evidence, still time to do trials. *Lancet* 2004;364:1183-85.

## **Workplace Project Ten**

### Background:

An oil and gas support company was awarded a compressor maintenance contract in West Africa. Engineers from various locations within the U.K. would travel to West Africa for variable periods of time to service machinery. Travel and work health programmes were in place and a recent Health Safety & Environment (HSE) audit confirmed satisfactory health screening and vaccination provision for all dispersed employees on previous projects. However inconsistency had been documented in medical advice given and prophylaxis prescribed to prevent malaria. Three employees in the preceding year had contracted malaria necessitating medical evacuation. I was requested to advise on how to improve the malaria management policy and procedure to minimise the risk of malaria.

### Actions:

I reviewed the HSE audit findings, established industry best practice guidelines<sup>1</sup> and latest CDC,<sup>2</sup> WHO<sup>3</sup> and NathNac<sup>4</sup> information on malaria to establish current country-specific risk, drug-resistance, recommended prophylaxis and treatment.

West Africa was identified as a high-risk area for malaria with a high level of chloroquine-resistant malaria.

Following assessment of the General Travel Policy and procedure, I arranged a meeting with key senior managers to present a summary of the global malaria burden, effective methods of managing the risk of employees contracting malaria and the operational and legal challenges of implementing a malaria risk management programme. Additionally I wished to secure necessary support, resources and funding for the project.

I defined the critical elements of a successful “Zero Malaria Policy & Programme” for discussion, which included:

- Prior to travel:
  - Mandatory completion of a malaria education programme to any malarial zone
  - Provision of malaria kits
  - Provision of adequate supplies of anti-malaria medication
- Compliance with prescribed malaria prophylaxis
- In country 24-hour access to competent medical facilities on site capable of diagnosing and treating malaria as per recognised international protocols
- Post-trip advice letters for family and general practitioner

I emphasised that malaria was a serious, potentially lethal but preventable disease. Best managed through a combination of employee education, provision of appropriate anti-malaria medication and the use of mosquito repellent containing DEET and malaria nets. From experience I advised that the issue most likely to prove problematic would be employee concern regarding taking anti-malaria medication with subsequent non-compliance. The need to specifically address the myths regarding malaria prophylaxis in the education programme was emphasised.

Current travel and work health programmes were tied into the travel booking process in such a way to ensure that ticketing could not proceed until confirmation of fitness certificates, vaccination status and provision of malaria prophylaxis were confirmed. Vaccinations and malaria prophylaxis were provided by either the employee's general practitioner or via a travel health clinic. To introduce consistency in medical management I proposed the development of a standard Company Policy on vaccination requirements per country and on preferred malaria prophylaxis medication so that these could be provided for medical practitioner guidance. I adopted MASTA<sup>5</sup> vaccination guidelines and chose Malarone<sup>6</sup> (p34-54) for malaria prophylaxis. My choice was based upon side-effect profile, efficacy and the fact employees would be on site no longer than 6 weeks at a time.

I proposed to write a 15-minute interactive presentation on malaria, which would be available on the company's intranet site on line. Completion of the programme and

successfully passing a test of knowledge were mandatory prior to travel to a malarial country and annually thereafter.

The contents of a malaria kit were defined (to include sleeping net, DEET-containing insect repellent and an “emergency treatment” pack of drugs with instructions on when and how to use) and would be sourced and costed.

Mandatory versus voluntary malaria prophylaxis was debated. Due to the legal need to amend contracts to include the mandatory requirement to take anti-malaria medication and the legal and ethical issues for debate it would raise, it was decided to leave compliance voluntary. To increase the likelihood of employees compliance a highly effective, safe medication with low incidence of reported side effects (when compared to other drugs) was chosen (malarone)<sup>6</sup> and the myths surrounding anti-malarial medication dispelled robustly in the presentation.

It was agreed that at the “Due Diligence” stage of contract negotiations the requirement to ensure the client site medical provider was capable of providing an appropriate level of medical care, including malaria treatment, would be assessed and made a pre-requisite.

I explained the benefit of providing generic medical advice letters for the family, partners and general practitioners of those returning from a malarial area and agreed to write a standard letter for the employee and GP emphasising the need to consider the diagnosis of malaria for up to a year after return from a malarial zone. The employee was advised in writing of the need for early reporting of post-travel fever or illness.<sup>1</sup>

The general travel policy was amended to reflect the above procedural changes. Managers and employees were advised of the changes to the travel procedure and the reasons for these by email and were encouraged to contact the occupational health department if they required further information or guidance.

### Discussion:

Malaria is the major reason for emergency medical evacuation of expatriates in West Africa.<sup>7</sup> It is a potentially lethal disease but readily preventable using a combination of education and prescription of effective, safe and well tolerated medication.

Simple measures such as the use of DEET-impregnated mosquito nets, regular application of DEET-containing mosquito repellent and wearing long sleeved shirts and trousers contribute significantly to reducing risk of malaria. Anti-malaria drugs are highly effective and reduce risk substantially further.

As with all other risks to health, communication and perception management is critical.

### **Workplace Project Ten References:**

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1. The International Association of Oil & Gas Producers. OGP/IEPCA Health Committee. *A Guide to Malaria Management Programmes in the Oil & Gas Industry*. 2006.
  2. Centers for Disease Control and Prevention. Malaria. On Line: <http://www.cdc.gov/malaria/>
  3. World Health Organisation. Health Topics – malaria. On Line: <http://www.who.int/topics/malaria/en/>
  4. United Kingdom: National Travel Health Network and Centre. NaTHNac. On line: <http://www.nathnac.org/pro/index.htm>
  5. MASTA. <http://www.masta-travel-health.com/travel-health.aspx>
  6. United Kingdom: Health protection Agency. *Guidelines for Malaria Prevention in Travellers from the UK*, 2007. HPA: London. On line: [http://www.hpa.org.uk/web/HPAwebFile/HPAweb\\_C/1203496943523](http://www.hpa.org.uk/web/HPAwebFile/HPAweb_C/1203496943523)
  7. International SOS medevac statistics for Nigeria 2006.