Preventing Occupational Cancer and Supporting Cancer Survivors’ Return to Work

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Worldwide, there are 13 million new cases of cancer and 7.6 million deaths every year. Nearly two thirds of these deaths occur in low- and middle-income countries. A large proportion of all cancers are due to exposure to carcinogens in the environment or workplace.

Around 8,000 deaths in Britain each year are caused by occupational cancers. That equates to about five percent of all cancer deaths. However, it is difficult to determine a true figure for occupational cancers because of the latent nature of the disease. An individual might be exposed to a cause of cancer and not develop any noticeable symptoms until many years later. With current work patterns of people moving between different job roles and companies, it can be difficult to determine a specific exposure or cause.

OSH practitioners are often in an ideal position to be able to notice the first signs of occupational illness, and alert managers, so that early intervention can be planned. However, there is also a need to expand their role into new skill areas, and add to their knowledge, so that they can provide support to others helping with rehabilitation.

They are often more comfortable with environmental solutions, but sometimes work adaptations will need to be more than physical ones. Leka et al. (2008) highlighted the need for OSH professionals to develop knowledge of health surveillance and to be able to identify emerging risks to engage with the health agenda.

This paper highlights a key role for the OSH practitioner in raising awareness of occupational cancers. It discusses:

- the main agents responsible for occupational cancer in Great Britain, including, asbestos, night-shift work, mineral oils, solar radiation, silica, and diesel engine exhaust.
- outlining issues affecting how cancer sufferers can remain in work, and whether cancer survivors return to work.
- how the OSH practitioner can help in this process
Background

The Extent of Occupational Cancer

Worldwide, there are 13 million new cases of cancer and 7.6 million deaths every year. Nearly two thirds of these deaths occur in low- and middle-income countries. A large proportion of all cancers are due to exposure to carcinogens in the environment or workplace (Espina et al. 2013).

Around 8,000 deaths in Britain each year are caused by occupational cancers. That equates to about five percent of all cancer deaths. Nearly half of the cancer deaths occur in male construction workers (Rushton 2013). In addition, there are an estimated two million people living with cancer (Maddams et al. 2009) of which 700,000 are of working age.

However, it is difficult to determine a true figure for occupational cancers because of the latent nature of the disease. An individual might be exposed to a cause of cancer and not develop any noticeable symptoms until many years later. Also, cancer may not be caused by a single factor. For example, smoking is regarded as the major risk factor for lung cancer, and this can make it difficult to examine the effects of occupational exposures to other carcinogens. So, even statistics from the number of national cancer registrations and looking at occupational health surveillance reports may not give an accurate picture of how many are actually due to occupational exposures at work.

There are estimates to show that about a third of all cancer could be prevented (Danaei et al. 2005). Although lifestyle choices, such as smoking, alcohol use, poor diet, and lack of exercise play a role in the development of cancer, exposure to carcinogens in the environment and at work also plays a significant role, and can often be prevented. This prevention is important because it is cost effective, reducing high medical and other social costs, but also because it can reduce the suffering of many potential cancer victims.

The most common types of cancer in Britain are lung cancer and mesothelioma. The majority of these cancers are caused by past exposure to asbestos. Mesothelioma is a cancer of the protective lining of internal organs and is most commonly found in the pleura. It can take over 30 years to develop, so the majority of cases occur after the age of 60. Once diagnosed, patients usually live less than a year. Cases of mesothelioma are still increasing in Great Britain, although the use of blue and brown asbestos (crocidolite and amosite) was banned in 1985, and white asbestos (chrysotile) since 1999.

With current work patterns of people moving between different job roles and companies, it can be difficult to determine a specific exposure or cause. In countries where there are many ‘informal’ workplaces that are not regularly inspected, it is very difficult to separate cancers caused by occupational exposures (Santana et al. 2011).

Changing industrial profiles and a decline in working in the manufacturing sector in the western economies could mean that exposure to some carcinogens will be reduced, and there should be fewer cases of occupational cancer (Van Tongeren et al. 2012). In Europe, under REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals), substances causing cancer will have to be authorised and this will involve a risk assessment to show that the risks are controlled and that their use can be justified from a socio-economic point of view, so this may also help to reduce exposure in future.
How are Workers Exposed to Carcinogens?
Workers may develop cancer as a result of being directly exposed to a carcinogen in the work place. Occupational carcinogens are of three types: chemical carcinogens, which may occur naturally like asbestos or be the result of processing such like vinyl chloride; physical carcinogens, such as ionising and ultraviolet (UV) radiation; and biological carcinogens, for example, viruses, which damage cells or compromise the immune system so that abnormal cells cannot be controlled, such as in Hepatitis B and HIV, known to cause skin cancer.

Carcinogens can occur as solids, liquids, vapours, gases, or dusts. Workers may breathe in carcinogens or absorb them through the skin or swallow them. About half of the particles deposited in the upper respiratory tract, and 12.5% from the lower passages are eventually swallowed. This highlights an area where prevention, in the form of good hygiene, can be effective, as items placed in the mouth, such as cups and eating utensils, can also become contaminated.

Currently, in Great Britain, construction workers carrying out maintenance are most likely to be exposed to asbestos. There are more deaths caused by asbestos-related lung cancer than mesothelioma, however (Brown et al. 2012). The Health and Safety Executive (HSE) projects that about 1 in every 170 British men born in the 1940s will die of mesothelioma. This is a legacy of extensive asbestos use. Former construction workers, plumbers, electricians, carpenters, ship builders, and locomotive engineers are at highest risk. Also at risk are the partners of these men, who may have come into contact with their contaminated work clothing, and also those working in public buildings predating the year 2000, such as hospitals and schools. Recently, the International Agency for Research on Cancer (IARC) has also linked asbestos to laryngeal, ovarian, and general intestinal cancers; more research is needed.

Examples of other substances implicated in lung cancers are acid mists containing sulphuric acid in steel industry pickling plants; crystalline silica in stone quarrying, the ceramic and pottery industry; and diesel engine exhaust, which affects transport workers, mechanics, garage and, dock workers.

Research with a cohort of non-smoking Chinese men calculated how likely their newly diagnosed lung cancer could be due to occupational exposure (Tse et al. 2011). It was found that there was a significantly increased risk of lung cancer developing when the non-smokers were exposed to silica dust or diesel exhaust. Although spray painting has traditionally been associated with an increased risk of urinary tract and testicular cancer, it was also implicated in lung cancer in this study.

A variety of other substances have been implicated in other occupational cases, such as:

- Aromatic amines used in many manufacturing processes, including coke processing, paper textiles, paints, dyes, pesticides, and rubber causing bladder cancer.
- Benzene, used as a solvent in the shoe, printing pharmaceutical and rubber industry causing leukaemia.
- Wood dust occurring in the furniture, construction, logging, and paper industries causing nasopharynx and sinonasal cancers.
- UVB radiation encountered by outdoor workers.
- Mineral oils in the metal and printing industries, formaldehyde in medical laboratories, the plastic textile and plywood industries causing leukaemia and sinonasal cancers.
For a complete discussion, see Parkin (2011).

Slack et al. (2012) reviewed three cancers suffered by women: breast, cervical, and ovarian. The types of agents or circumstances that are thought to be a possible factor in these cancers are:

- Tetrachlorethylene used in the dry cleaning industry and metal degreasing processes, which can cause cervical cancer. Exposure is caused by inhalation or skin contact.
- Dyes, solvents, and propellants, causing ovarian cancer and found in hairdressers.
- Shift work implicated in breast cancer (for example, in the healthcare, leisure, and hospitality industries, and women who travel through time zones, such as flight personnel).

It is estimated that approximately 20% of the working population in Europe and North America work night shifts, and more women have started shift working over the last 20 years. The problem with working night shifts is that it disturbs the circadian patterns and the production of melatonin, and this is thought to be carcinogenic. Rushton (2012) estimated that shift work could account for 2,000 cases of breast cancer in Great Britain, which accounts for over half of all female occupational cancers.

In the case of flight personnel, it is possible that exposure to ionising radiation also plays a role in cancer development. Although recent research from Sweden (Hammer et al. 2014) challenges the fact that flight attendants are any more likely than the normal population to develop radiation-related cancers.

Regarding rarer occupational cancers occurring in the brain, bone, and thyroid, exposure to inorganic lead, insecticides, and work in petrol refineries have been linked to brain cancers. Ionising radiation has been associated with bone and thyroid cancers, so workers in the nuclear industry, radiologists, and miners are vulnerable (Brown et al. 2012).

As part of the recent IARC evaluation, Vermeulen et al. (2014) estimate that 9000 lung cancer deaths in the U.S. and 2000 in the UK could be caused by occupational exposure to diesel engine exhausts (DEE). After asbestos and respirable crystalline silica, DEE is estimated as the third most important factor in causing lung cancer in Great Britain. (Rushton et al. 2012). Emissions are a complex mixture of carbon, water, carbon monoxide, oxides of nitrogen sulphide, polycyclic aromatic hydrocarbons; it is the solid particles that are of concern.

Emerging technologies also provide new challenges. Carbon nanotubes are a new form of carbon fibre with a diameter in the nanometre range but a length of hundreds of microns. This gives them exceptional strength, but also creates a potential hazard. Nanofibres have exceptional strength, and electrical and thermal conductivity. They can also be "forested," twisted into ropes, and woven into textiles. It has generally been assumed that carbon nanotubes are not hazardous, but they have a similar morphology and dimensions to asbestos.

Asbestos was such a useful material, it led to use in a wide range of products and widespread exposure. Nanofibres are similarly useful, and there is therefore the potential for widespread exposure in the future. The hazard depends on the route of exposure. One of the key aspects of nanofibres is that they are very thin and possess a low aerodynamic diameter and, if inhaled, can penetrate deep into the lung, where macrophages are unable to destroy them. Another nanomaterial, graphene, which has the width of a single atom but can have very large lateral dimensions, causes a similar problem (Donaldson et al. 2013).
To present a hazard, these fibres also need to be bio persistent, which means that, unlike glass, fibres they will not be dissolved in the lung, and could lead to lung fibrosis, cancer, and mesothelioma. Research is continuing into this area and has found that carbon nanotubes with rigid, needle-like walls can cause lung inflammation and damage DNA. It is apparently the rigidity that causes the cell changes, which can lead to cancer (Rydman et al. 2013). Studies still have to determine whether they can cause cancer or mesothelioma in the long term. The number of workers exposed at present is very low, but this highlights the need to keep alert to new agents that could be implicated in cancer development in the future.

**Work and Cancer Survivors**

**Can Cancer Sufferers Remain at Work and Cancer Survivors Return to Work?**

Research by Waddell and Burton (2006) has shown that work is usually beneficial for people; providing that their work is ‘good,’ it can help them lead healthier lives. Good jobs were those that allowed employees some control over their work and a sense of satisfaction. They found that there was a strong association between unemployment and poorer health (both physically and mentally). Although it can be expected that individuals with poor health may be less likely to work, they found that the factor of just not being at work explained most of this association.

Advances in diagnosis and treatment have meant that survival rates have increased for cancers. This means that more individuals who have cancer are staying at work or returning to work. Long-term effects of the cancer or the treatment can mean, however, that employees may continue to have physical health problems, which may affect their ability to do their usual work. For example, individuals may need to attend medical appointments more frequently, which will mean they need access to flexible work schedules.

What meaning does work have for a cancer survivor? Getting back to work after cancer can be regarded as part of reestablishing a normal, healthy life. Work is an important aspect of an individual’s identity. So those who can’t return to work may have to take on new activities in place of work to give their life meaning. Not working can also mean losing the companionship and social support found at work, apart from financial struggles (Rasmussen and Elverdam 2008).

Getting work into perspective, i.e. achieving a work life balance, is more important after cancer. Keeping a job is good because it gives survivors some activity they enjoy, and they are doing something not cancer-related. For example, Timperie et al. (2013) found that overall well-being was higher in breast-cancer survivors who worked some hours per week than those who did no work.

Work is an important part of quality of life, and also can provide significant emotional support for cancer survivors, apart from increasing their income. Many cancer survivors find the return to work difficult, however. This can be due to personal factors, job factors, and the specific nature of their illness. Research has shown that those over 50 years of age are less likely to return to work. Other relevant factors are gender, education, the type of cancer, whether they have social support, and the physical workload of their job.

Sometimes, co-workers find it difficult to talk about cancer with the cancer survivor, although, in their qualitative study of cancer survivors in the U.S., Main et al. (2005) reported that many co-workers gave cancer survivors not only social support but also support in kind, such as money and presents of food.
There appears to be gender differences concerning work ability in working cancer survivors. Research has found that men fared better than women, who reported more psychological and physical symptoms than a matched control group (Gudbergsson et al. 2011).

Cooper et al. (2013) investigated the factors that predicted a return to work following cancer treatment. Although over 90% of people returned to work, the length of time they were absent varied, depending on their cancer, from 5-20 weeks. Those that returned earlier reported having greater control over their work and access to flexible work schedules.

Although only a minority of cancer survivors actually move to a different employer or change their job after their cancer, the most likely reason for changing a job would be if it was physically demanding (for example, breast cancer survivors may have difficulty lifting their arms). Support from the employer in making physically demanding jobs easier and taking their illness into account when planning work tasks helped survivors remain at work (for example, avoiding shift work and overtime (Lindbohm et al. 2011)).

Having chemotherapy can be a significant predictor of job change following cancer (possibly owing to fatigue) (Mols et al. 2009). As to be expected, survivors with more physical symptoms worked fewer hours. There are also reports that chemotherapy can induce cognitive impairments, such as memory and concentration problems, which can result in difficulties in carrying out decision making and planning. This may impact the type and level of work that some cancer survivors can do, and may have implications for workplace safety. Because cancer reduces a person’s physical capacity, cancer survivors with less education may be less likely to return to work than those with a higher education (Taskila and Lindbohm 2007).

The relationship between neuropsychological functioning and cancer survivors’ ability to work was investigated by Nieuwenthuijsen et al. (2009). They found that a third of cancer survivors suffered impaired neuropsychological functioning, but this did not significantly affect their work ability. However, some cancer survivors find that it is more difficult to concentrate or analyise data and this can interfere with job performance (Bradley 2002). These factors can be caused by the cancer itself or the treatment for it. For example research has shown that women receiving the drug tamoxifen showed cognitive deficits, for example, a decrease in visuospatial ability, short-term memory and language loss (Breckenridge et al. 2012). However, depression, anxiety, and fatigue also play a role. Collins et al. (2013) identified five work tasks that caused problems for brain tumour survivors. These were all memory-related and involved everyday tasks, such as following written instructions, assembling materials for a job, moving from one task to another, following and contributing to a discussion.

So, cancer impacts on an individual’s quality of work life in several ways, not only because of how they are feeling, but how others respond to them and how they can regain their productivity while coping with the effects of cancer and its treatment, such as the fatigue following radiotherapy and chemotherapy (Main et al. 2005). There are ways cancer survivors can overcome these deficits by developing coping strategies, such as avoiding high-pressure situations at work and multi-tasking, working fewer hours, recognising the need for more rest, pacing themselves, making lists to overcome memory loss, and working smarter.

In addition to the factors already discussed, which affect cancer survivors return to work (i.e., cancer type, treatment, health status, education, and physical workload), psychosocial factors are important. Social support from the occupational health affects the ability of cancer survivors to return to work. Women are more likely to seek social support than men in helping them cope with cancer (Goldzweig et al. 2000, Hann et al. 2002). Others return to work was accompanied by
feelings of apprehension that they might not be able to cope following their illness and treatment (Taskila and Lindbohm 2007).

Bouknight et al. (2006) found that cancer sufferers who were given workplace adjustments and flexibility were more likely to be able to return to work. But sometimes supervisors and co-workers can underestimate the cancer survivors’ ability to cope with their work but equally, there can be a lack of support from other employees.

The increase in retirement age in Britain and improvements in cancer detection and care means that there are likely to be more cancer survivors in the workplace (Luker et al. 2013), so there will be an increasing need for health professionals to discuss work-related issues during consultations to help cancer survivors plan their return to work.

Therefore it is necessary to raise employers’ awareness about the work ability of cancer survivors. Healthcare professionals need to become more involved in helping cancer patients time their return to work. Generally, there is a need for empathy about physical problems related to treatment, what limitations the cancer might cause, and cancer survivors’ fear of work-related failure (Banning 2011).

Assessing What Work an Employee Can Do
When assessing what work an employee may be able to do following their cancer, it is important not to make assumptions based on any disability or impairment. Rather than focusing on this medical model, it is better to use a social model to assist decision making. The social model takes into account the barriers created by society or the environment that might make it difficult for the employee. If the environment is adapted or policies are changed to help such an employee, they will not be disabled by their cancer. Thus, this model is person-focused and considers the barriers to working, rather than assumptions or stereotypes about the cancer survivor.

Therefore, an employee should be asked what is preventing them from working, and what would help them return. Many people are able to work if they can cope with the deficits caused by either their cancer or its treatment. Thus, the best approach is to speak to the employee and, where necessary, request relevant information from their doctor or an occupational health specialist. Part of the rehabilitation process can also involve putting the employee in touch with organisations that can provide assistance.

Health and safety is best considered as part of the general assessment of the employee's work adjustment requirements. Health and safety should be an enabler not a barrier to or a reason why employees are unable to return to work. This is where a risk assessment carried out in cooperation with an OSH practitioner can be useful. Then an informed decision can be made on whether the risk level is acceptable and, if not, whether it can be controlled at a reasonable cost. If not, the employee can be considered for other duties.

The Role of the OSH Practitioner

Therefore, the OSH practitioner has a dual role. First, the traditional one, in identifying potential carcinogenic substances used in the workplace and developing control measures to prevent exposure. Second, there is perhaps the newer role in rehabilitation. One of the most important roles of the OSH practitioner, however, is to help prevent employees getting injured or becoming ill in the first place. It is often difficult to get individuals to change their lifestyle to reduce their risk of cancer, but OSH practitioners can make a difference by helping to manage workplaces
better to reduce the risk of cancer, ensuring correct implementation of controls, and proactive monitoring to ensure controls are still working.

Although only a relatively small proportion of cancers can be attributed to occupational exposure, the number of fatalities is high when compared to other fatalities as a result of work-related injury or ill health. Successful control of carcinogens involves several factors. For example, identification and implementation of controls should be regarded as a priority from senior management and supervisors, and the company should have competent advice in identifying the substances, assessing the risks, and recommending controls.

It is important that OSH practitioners keep informed about current emerging issues around new technology, such as nanomaterials. Even if the hazard is not fully understood, it is possible to control the exposure to reduce the possible hazard. This can be done by designing and operating processes to minimise emission release and spread of nanomaterials. Risk assessments should be checked for continuing effectiveness, and workers trained and informed.

Senior managers are ultimately responsible for ensuring the health, safety, and welfare of their employees. In Great Britain, the HSW Act (1974) requires employers “to provide a place of work which is safe and without risk to health as far as reasonably practicable.” The Act does not specify how employers are to do this, however. This creates a market for the occupational safety and health (OSH) professional to assist senior managers by giving competent advice (Atherley & Hale 1975, Grainger and Joyce 2011). Since 1992, however, to comply with the requirement of the European Directive (89/391/EEC), it has become a legal requirement in Great Britain to seek competent advice, and appoint a designated employee to advise on health and safety risks. Arguments still continue today about what is meant by competence, but generally it is accepted that this involves appropriate qualifications, experience, and knowledge (see Holden and Vassie 2010 for a full discussion).

Depending on the size of the organisation, an OSH practitioner may be the sole source of advice regarding adjustments to help an employee who is ill return to work, but more likely they will need to cooperate with occupational health and HR professionals. This means that communication skills are key. It is therefore important for OSH practitioners to make “functional alliances” within their own organisations to make sure they are part of any discussion on rehabilitation and health. They need to maximise their position and not get lost in the detail of doing the job. However, they also need to be realistic about the level of engagement they can achieve. Health and safety can be regarded as complex, and it is the job of the OSH practitioner to simplify the messages and make them relevant to the people they advise, using language that will fit into the business culture. Messages will need to be tailored to different audiences. This requires not only competence in occupational safety and health but good communication skills.

In Great Britain, legislation puts the onus on the creator of a risk to manage it. The Control of Substances Hazardous to Health (COSHH), the Control of Asbestos Regulations and the Ionising Regulations all require a risk assessment, then the application of a hierarchy of control to implement suitable control measures, which ranges from eliminating the carcinogen and replacing it with another less hazardous substance, to isolating the process using engineering controls and, as a last resort, personal protective equipment (PPE). If substitution of a substance is used, this may cause other issues. For example, rather than using trichloroethylene, the use of d-limonene when oxidised presents risks for skin allergy.

It is important to consider exposure routes and that control measures are proportionate to the health risks they pose. The aim is to limit the number of workers exposed and to reduce the level
of their exposure. An example of an engineering control developed to reduce silica exposure created when sawing stone and concrete has been a saw with an electronic control to use water effectively to suppress dust (Wilson 2011). How effective an engineering control is, however, will depend very much on its implementation. For example, with local exhaust ventilation, it must be positioned correctly to capture the contaminant. This also highlights the need for good training and supervision.

Avoiding compensation claims is an issue for organisations. For example, a mesothelioma sufferer in Great Britain can claim compensation through the civil courts if the employer has been negligent or breached their statutory duty. Former employees may find it difficult to pinpoint when they were exposed, so if more than one employer is involved, they can pursue any one employer for full compensation. Non-employees can also pursue claims, so it is in the interest of the company to ensure that they do not expose their employees and others to these types of hazards. Therefore, this further highlights the important role of the OSH practitioner in carrying out risk assessments of substances hazardous to health, and also keeping good records.

As mentioned earlier, early diagnosis and improved treatment have meant that survival rates have increased for cancers and, therefore, more individuals who have cancer are staying or returning to work. This presents new challenges for OSH practitioners and others involved in helping employees return to work, and giving advice and arranging work adjustments are an important factor in helping survivors return to work.

If cancer-related symptoms are detected in the workforce, OSH practitioners will need to look at the system they use to control exposure to known carcinogens and ensure they have a satisfactory protection programme. There should be an occupational safety and health management system (OSHMS) in place covering:

- risk assessment
- control measures
- monitoring of exposure
- health surveillance
- education and training

In addition to investigating any potential exposure or breakdown of controls so that further exposure is prevented, it is important to remember that occupational cancer can be caused by an exposure some years earlier, so they might need to take into account where the employee previously worked and what they did.

Diagnosis and Rehabilitation
OSH practitioners are often in a good position to notice changes that happen on the front line. There are a number of ways they can help in the diagnosis and rehabilitation process. For example:

- looking for early signs of distress and low morale in the employee
- supporting the employee by listening to their health concerns in private
- seeking competent help from others, for example, a medical practitioner or human resources department (this will depend on the size of the company)
- assisting in return-to-work procedures
- providing suitable and flexible work options and discussing these with the employee before making any recommendations
• providing ongoing support to enable the employee to feel safe and productive

They should also be looking at prevention and another task is to see whether any of the substances or processes used by the company require health surveillance.

In the UK, COSHH stipulates the requirement for defined health surveillance programmes when specific substances are used. It means putting in place certain procedures to achieve this, usually performed at least once a year and under the supervision of a health professional. These procedures can include:

• initial health assessment
• medical examination
• self-examination
• health questionnaire
• exposure records
• maintaining health records for employees

As discussed earlier, the type and severity of an employee’s disease will determine whether they can remain in work. An employee might not wish to disclose any medical information to their employer. However, relevant information, such as the treatment schedule and any restrictions on the work that can be done, could help the employer make any reasonable adjustments needed. The free publication, *A Healthy Return*, downloadable from the IOSH website, provides further information and guidance.

To summarise, a rehabilitation programme for absence due to cancer-related illness should include effective procedures for overseeing the rehabilitation process, including written policies, training for line managers, early health assessment, contact with the employee concerned, a plan discussed and agreed with the manager, employee and occupational health and advice from the OSH practitioner as necessary, flexible return-to-work options and, most important, regular reviews.

**Communication Is Important**

Grunfeld et al. (2010) found that employers reported more negative perceptions about how cancer and its treatment would affect work than cancer patients themselves. This highlights the importance of communication between the employer and employee when devising a return-to-work plan. Rather than just talking about returning to work, it might be useful to look at interventions to help individuals achieve work-related goals that are important to them. Wells et al. (2013) carried out a systematic review of qualitative research into employment and cancer. They found that work is important for self-identity, self-esteem, providing financial security and helping maintain social relationships. Work is, therefore, much more than paid employment. Its importance depends, however, on the value placed on it by cancer survivors.

Yarker et al. (2010) looked at why cancer survivors encounter problems returning to work. The study highlighted the importance of communication about the process of returning to work, and the importance of quality support from occupational health, line managers, and colleagues during the initial return.

Workplace attitudes towards cancer can be sympathetic and well-meaning, but are often short-lived. This study highlighted two distinct stages in a survivors return to work: the initial return, and the post-return periods. There is a delayed impact of cancer in terms of fatigue and
depression, which often does not emerge until the post-return period. Therefore, organisations may need to support the returner beyond the usual six-month period.

Survivors often do a phased return to work. Normal working hours continued to be a problem because of fatigue, and this can lead to survivors subsequently requesting work adjustments. For example, after gynecological cancer, hot flushes can be a problem. This illustrates the need to carry out a job analysis to identify aspects of the role that could cause difficulties, and produce a clear return to work plan with a phased return.

Work Adjustments
A work-adjustment assessment would normally be carried out by the employee's manager, together with the employee and OSH practitioners, should be available to give advice as necessary. Once an informed decision has been made about workplace adjustments, it is important to ensure that the decision is documented with evidence to ensure that it complies with legislation.

The assessment should cover:

- any barriers to working
- any health and safety concerns
- measures needed to improve access and minimise risk
- any barriers or concerns that have not been resolved by adjustments suggested
- the decision whether the work can be made compatible with the employee's condition
- any action agreed upon

Example of an Adaptation in the Case of Visual Impairment
Although rare, employees such as welders or chemical and laundry workers have a greater risk of getting eye melanomas. Common ocular problems in other cancer patients include ocular surface diseases (such as dry eyes, and ocular inflammation), cataracts (due to steroid or radiation treatment), bleeding (in the front or the back of the eye, due to low blood count). Patients whose cancer involves the brain include double vision, visual field loss, and optic nerve swelling. Radiation to the eye area to treat head and neck cancers, cancer of the eye socket, or whole brain radiation for brain cancer, may have acute and late side effects to the eye and vision.

An example of an adaptation for someone who has lost their sight or become partially sighted as a result of their cancer would start with a conversation with the individual. This would involve mainly listening to discover what their particular difficulties were. Different solutions may be needed for employees who work in the back office of an organisation or on the front desk.

The majority will be concerned about how they are going to access technology, i.e., use computers or telephones in future. There are a whole range of adaptations available, and some may be as simple as improving the contrast on the display screen to using a large-character keyboard or a video magnifier or screen-reading software. Specialist IT help will be needed when installing screen-reading software if it is to be used remotely, as it will need to go onto the server, not just onto the user's own computer. This then enables it to work through Citrix (a software server solution). Thus, it facilitates flexible working.

Sometimes, role profiling will be necessary, which means giving the part of the employee’s job they cannot manage to another person. Adjustments to targets might also be necessary. For
example, it will take a partially sighted person longer to find information on a screen, which could affect their performance if they worked in a call centre.

In the UK, there is a government-funded programme called Access to Work, which helps with the cost of adaptations. This equipment then becomes the property of the employer, rather than, as was formerly the case, the employee. This is to ensure that the employer upgrades their computer equipment at the same time other employees' equipment is upgraded. Sometimes adaptations funded under this scheme can include items such as travel to work, where an individual might find it difficult to drive or use public transport. In this case, the individual receiving the help would be expected to make a contribution equivalent to what they would normally have had to pay for travel if they had not been disabled.

Large organisations may have a special team dedicated to "reasonable adjustments." One global bank recommends that the most effective way of managing adaptations is to give ownership to the employee; they can refer themselves rather than having to go through their manager or the occupational health team. Adaptations are also funded centrally rather than coming from a departmental budget; this has been found to speed up the process.

Adding Value
OSH professionals need to keep abreast of new technology so they are aware of new solutions that could help rehabilitation. They have a key role in recognising and identifying workplace health priorities at an early stage. In this way, they will ensure that they add value to the decision-making process to achieve the best solution for the employee.

Finally, it is important for them to play a role in following up work adjustments and reviewing risk assessments to ensure that cancer survivors do not feel isolated in coping with their symptoms and work.

Conclusion

This paper has highlighted a key role for the OSH practitioner in raising awareness of occupational cancers. It discussed:

- the main agents responsible for occupational cancer in Great Britain, including asbestos, night-shift work, mineral oils, solar radiation, silica, and diesel engine exhaust.
- planning how cancer sufferers can remain in work and cancer survivors’ return to work.
- how the OSH practitioner can help in this process.

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