REPORT
OF THE
ADVISORY COMMITTEE
ON
HEALTH SERVICES
REPORT
OF THE
ADVISORY COMMITTEE
ON
HEALTH SERVICES SECTOR
TO THE
HEALTH AND SAFETY AUTHORITY
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Over eight years have passed since the publication of the first Report of the Advisory Committee on the Health Services to the Health & Safety Authority in 1992.

The health services sector employs over 100,000 people and at the time of publication of the 1992 report, was still in the process of coming to terms with the Safety, Health & Welfare at Work Act, 1989, which brought the sector under statutory control in the occupational safety, health and welfare area for the first time.

In order to review developments in safety, health and welfare matters in the sector since 1992, the Health and Safety Authority decided in 1999 to establish a new Advisory Committee, representative of all the social partners. This report is the culmination of eighteen months’ deliberations in response to challenging terms of reference and I would like at the outset to thank the members of the Committee, all of whom gave enormous time and commitment to the task at hand.

The report, while taking cognisance of the social and legislative changes which have taken place since 1992, also seeks to re-emphasise the enduring factors in accident and ill-health prevention in the workplace, namely hazard recognition, risk assessment, consultation, training and safety management. The use of systems of work based on the above factors remains the only way of ensuring safe and healthy work places.

The Committee in its deliberations sought information from many sources. Statistics of various types were examined in order to get a picture of accidents and ill health in the sector. However, while statistics can give a picture of the past, the committee also sought to inform itself on current issues, which do not as yet have a clear statistical history. With this in mind, the Committee enlisted the advice of experts who made valuable presentations to the Committee on a range of topics, and I would like to take this opportunity to acknowledge the generosity with which they gave of their time and expertise.

As Chairperson I wish also to place on record my sincere appreciation of the work carried out by Joan Hannigan and Catherine Barry who provided administrative support to the Committee throughout its deliberations and to all the other staff members of the Health & Safety Authority who assisted in bringing this report to fruition.

The health services sector has shown in the past that it is capable of, and willing to meet the challenges of the time in safety, health and welfare. I am confident that this report, by highlighting new challenges and its proposals for meeting these challenges, through partnership and alliances, and its emphasis on the strengthening of safety management systems and safety committees, will result in the problems in the area being tackled with renewed vigour by all concerned.

Lenore Mrkwicka
Chairperson of the Advisory Committee
Member of the Board of the Health and Safety Authority
May, 2001
Summary and Recommendations

Terms of Reference

- Taking account of the Report of the Health and Safety Authority Advisory Committee on the Health Services Sector, October, 1992, and the subsequent impact of its recommendations, to identify and prioritise the principal safety and health problems in the sector;
- To develop proposals, for consideration by the Board of the Authority, for practical programmes and strategies to tackle the problems identified;
- To make recommendations on the implementation and monitoring of the programmes and strategies adopted by the Board.

In meeting these terms of reference the Committee realised quickly that it would not be possible for this committee to examine all aspects of safety, health and welfare in the sector and so the committee chose a number of topics for treatment in some detail. This modus operandi is not meant to detract from the importance of other topics but merely means that those matters are regarded as being well understood and that they simply require adequate management.

Developments since 1992

In analysing the changes which have taken place since 1992 the committee became aware of a number of important matters.

- The level of awareness of safety health and welfare issues throughout the sector has increased greatly
- Most health services’ places of employment have safety statements
- There are a large number of health and safety professionals in the sector
- Extensive training programmes have been put in place in a number of key areas such as manual handling.
- At policy level there is a commitment to safety, health and welfare issues and to health promotion in the workplace generally – see Department of Health publications on ‘The National Health Promotion Strategy (2000-2005)’ and ‘Health Promotion in the Workplace: Healthy bodies in Healthy work (1998)’.

The thrust of this report is, therefore, to encourage the sector to build on the foundations which have been laid over the last number of years.

Key Issues

We now move to more specific areas of concern.
REPORTING AND RECORDING INCIDENTS

The Committee recommends that:-

• all incidents be recorded
• the health sector should introduce a standardised incident report form to enable consistent recording of incidents, accidents and occupational diseases which would help to identify patterns, which in turn would help focus safety management programmes (such incident forms would be separate from the statutory IR1 form)
• each institution adopt a computerised system of reporting and recording incidents

SAFETY MANAGEMENT

In looking to the future the committee recognises that the most essential area in which development needs to take place is in the area of safety management. This theme is developed at some length in Chapter 2 but essentially the challenges lie in:-

• the integration of safety management principles into the management function at all levels in the sector
• recognising the full role of the safety representative and making it more effective
• the expansion of the safety committee system in larger institutions, to ensure participation by all disciplines
• The importance of adequate safety management systems cannot be over-emphasised for large employers such as the health boards and large hospitals.

SOCIAL AND HUMAN FACTORS

Chapter 3 deals with a number of social issues. In recent years, increased demand on the health services has meant that issues such as stress, violence, overlong hours of work and bullying have acquired enhanced significance, since they put the people working in the sector under proportionally increased pressure. These issues, firstly, require recognition and, subsequently, adequate resources and efficient management to control or eliminate the hazards to health safety and welfare associated with them. Many of the issues referred to in Chapter 3 will be regarded as coming within the province of the Human Resources or Personnel Departments. However, such issues require to be dealt with by suitably trained people. The committee recommends that hospitals and health boards devise policies and procedures for social issues, which would recognise the complex and diverse nature of these issues.

HANDLING OF LOADS

Handling of loads and of patients has always had special significance in the Health Care Sector. Even though the emphasis must now be on moving to non-manual handling methods, nevertheless, manual handling will always be important in certain areas. Chapter 4 sets out the parameters for risk reduction in this area.

MANAGEMENT OF BIOLOGICAL HAZARDS

The management of biological hazards has always been a large feature of the health services sector. Chapter 5 deals with some of the issues. Social changes have increased the risk to staff from biological hazards, e.g. the risks associated with infected sharps and needles. Increased inter-communication between countries has meant that there is now a greater likelihood of finding diseases, more commonly associated with hotter climates, in Ireland. However, as with all such risks, adequate management is the key to control.

CHEMICAL HAZARDS

Hazards in the chemical area, some of which have been outlined in Chapter 6, have barely changed since 1992. However, there is a move to eliminate where possible the use of glutaraldehyde. The provision of
adequate controls to keep levels of chemicals such as formaldehyde, glutaraldehyde and waste anaesthetic gases, in the atmosphere, at acceptable levels remains an important issue to be dealt with, in areas of the sector.

**SLIPS, TRIPS AND FALLS**
Chapter 7 highlights the fact that slips, trips and falls remain a high source of accidents and the effective management of housekeeping and maintenance, along with the wearing of suitable footwear, is the only way of controlling this type of hazard.

**ELECTRICAL SAFETY**
Quite a sizeable number of older premises do not have residual current devices fitted for protection of persons during the use of portable and transportable electrical equipment. The regularising of this position must be expedited.

**Recommended Strategies**
In seeking to deal with the issues raised in this report, the Committee recommends the following strategies to the Board of the Health and Safety Authority:-

The Authority should:-

- ensure that health service employers accept the introduction of properly organised health and safety management systems in accordance with the now well-established principles. Such systems along with associated adequately budgeted and rigorously controlled and audited programmes are imperative.

- continue to develop the strategic alliances, which it has sought to form with the Health Boards and the Department of Health and Children and to extend this approach to include the Health Services Employers Agency.

- develop a partnership approach with the voluntary and private hospitals. The object of such alliances and partnerships would be to help to develop the structures and mechanisms through which the safety health and welfare policies of all hospitals and Health Boards can be implemented, audited and renewed regularly.

- encourage the development of safety committees in hospitals and institutions. These committees should be representative of all disciplines and have direct access, by means of agreed mechanisms, to the Chief Executive Officers of the hospitals or institutions involved.

- cooperate with the Health Boards in their health promotion schemes for workplaces.

- encourage the development of multi-disciplinary occupational health and safety services.

- devise guidance on best practice on manual handling in the health sector.

- develop further guidance on the assessment and competencies of manual handling instructors.

- develop further guidance on training on the prevention and management of violence in the health care sector.
Members of Advisory Committee

In carrying out its brief, the committee met ten times and a sub-committee which met four times, was established to structure the format of the report.

**Chairperson**
Ms Lenore Mrkwicka (Chairperson), HSA Board Member, Deputy General Secretary, INO

**IBEC**
Mr. Michael Connolly, Chief Nursing Officer, St Patrick’s Hospital,
Mr. Tom Moloney, Chief Technologist, Pathology Dept, Mater Hospital

**ICTU**
Ms. Christine Rowland, Assistant Secretary, Dublin Health Services Branch, SIPTU
Mr. Nicholas Keogh, Technical Services, Midland Health Board
Ms. Catherine Samuels, Occupational Health Sister, Midland Health Board

**Health Services Employers Agency**
Ms Elva Gannon, Head of Employer Advisory Service

**Health Boards**
Mr. Kevin Little, Industrial Relations Officer, North Western Health Board

**Irish Insurance Federation**
Mr. Alan Connolly, Client Services Manager, Irish Public Bodies Mutual Insurances

**Dublin Academic Teaching Hospitals**
Mr. Michael Lyons, Chief Executive, Adelaide & Meath Hospital Dublin incl. The National Children’s Hospital

**Medical Laboratory Scientists Association**
Ms. Helen Barry, Chief Medical Scientist, Pathology Department, St. Michael’s Hospital, Dun Laoghaire

**National Federation Of Voluntary Bodies**
Mr. Jim Kinsella, Maintenance Engineering and Health and Safety Manager, Stewarts Hospital

**Irish Medical Organisation**
Ms Moira Mallon, Research & Policy Officer

**Health & Safety Authority**
Dr. Dan Murphy, Director of Occupational Medical Services
Mr. Dan Dineen, Health and Safety Inspector, Southern Regional Manager
Ms. Louise Fitzgerald, Health & Safety Inspector
Ms. Joan Hannigan/Catherine Barry, Secretary
CHAPTER 1  Statistics

1.1 Accidents Reported to the Health and Safety Authority

Approximately 6% of the total accidents reported to the Health and Safety Authority are in the health care sector. This figure has been relatively static in the years 1994 to 2000.

Members of the committee noted that there was under reporting and late reporting of accidents in the health care sector. This matter should be addressed by the Authority when dealing with this sector.

The national breakdown of accidents by “body part injured” shows that in the sector “Health and Social Work” injuries to the back and spine has averaged 30% of the total in this sector over the years 1994 to 2000 inclusive.

### TABLE 1

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>% of total</td>
<td>No.</td>
<td>% of total</td>
<td>No.</td>
<td>% of total</td>
<td>No.</td>
</tr>
<tr>
<td>Injured while handling, lifting or carrying</td>
<td>87</td>
<td>29.8</td>
<td>95</td>
<td>27.1</td>
<td>97</td>
<td>28.4</td>
<td>99</td>
</tr>
<tr>
<td>Slips, trips or falls on same level</td>
<td>60</td>
<td>20.6</td>
<td>62</td>
<td>17.6</td>
<td>46</td>
<td>13.4</td>
<td>51</td>
</tr>
<tr>
<td>Injured by a person-malicious</td>
<td>24</td>
<td>8.2</td>
<td>57</td>
<td>16.2</td>
<td>44</td>
<td>12.9</td>
<td>51</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>39</td>
<td>13.3</td>
<td>60</td>
<td>17.1</td>
<td>71</td>
<td>20.8</td>
<td>70</td>
</tr>
<tr>
<td>Not Classified</td>
<td>5</td>
<td>1.7</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Injured by a person-not malicious</td>
<td>14</td>
<td>4.8</td>
<td>11</td>
<td>3.1</td>
<td>9</td>
<td>2.6</td>
<td>10</td>
</tr>
<tr>
<td>Injured by Falling Objects</td>
<td>12</td>
<td>4.1</td>
<td>6</td>
<td>1.7</td>
<td>4</td>
<td>1.2</td>
<td>12</td>
</tr>
<tr>
<td>Struck by something collapsing/overturning</td>
<td>2</td>
<td>0.7</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>Fall from Height</td>
<td>15</td>
<td>5.1</td>
<td>22</td>
<td>6.3</td>
<td>34</td>
<td>9.9</td>
<td>41</td>
</tr>
<tr>
<td>Contact with moving machinery parts</td>
<td>4</td>
<td>1.4</td>
<td>12</td>
<td>3.4</td>
<td>2</td>
<td>0.6</td>
<td>5</td>
</tr>
<tr>
<td>Exposure/contact with harmful substances</td>
<td>15</td>
<td>5.1</td>
<td>13</td>
<td>3.7</td>
<td>17</td>
<td>5.0</td>
<td>8</td>
</tr>
<tr>
<td>Injured by hand tools</td>
<td>5</td>
<td>1.7</td>
<td>2</td>
<td>0.6</td>
<td>9</td>
<td>2.6</td>
<td>-</td>
</tr>
<tr>
<td>Contact with electricity</td>
<td>-</td>
<td>-</td>
<td>3</td>
<td>0.9</td>
<td>1</td>
<td>0.3</td>
<td>-</td>
</tr>
<tr>
<td>Road traffic accidents</td>
<td>6</td>
<td>2.1</td>
<td>4</td>
<td>1.1</td>
<td>4</td>
<td>1.2</td>
<td>7</td>
</tr>
<tr>
<td>Injured by an animal</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>0.3</td>
<td>-</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>Transport(not traffic)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td>0.6</td>
<td>-</td>
</tr>
<tr>
<td>Fire or explosion</td>
<td>4</td>
<td>1.4</td>
<td>3</td>
<td>0.9</td>
<td>2</td>
<td>0.6</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>292</td>
<td>351</td>
<td>342</td>
<td>360</td>
<td>416</td>
<td>468</td>
<td>282</td>
</tr>
</tbody>
</table>
Table 1 shows accidents reported to the Health and Safety Authority in the sector “Health and Social Work”, broken down by year and “accident type”. It is expected that the final total figures for the year 2000 may be larger than those shown due to late notifications.

“Injured while handling, lifting or carrying” is consistently the leading accident type in this sector. This is followed by “slips, trips or falls on the same level”. Excluding the “miscellaneous” category, “Injured by a person-malicious” is the third largest category throughout the years since 1994. This type of injury occurs most frequently in the Public Administration, Defence and Compulsory Social Security sectors, which includes the Gardai. However, it is also very common in the Health and Social Work sector. Accidents reported to the Health and Safety Authority do not normally include needlestick injuries as absence from work for more than three days is the criterion which makes an accident notifiable.

(Note:- The accident totals shown in Table 1 are slightly higher than those shown in each year’s Health and Safety Authority Annual Report due to late receipt of accident notification after the end of the years in question.)

1.2 Diseases Reported to the Health and Safety Authority

Disease statistics have traditionally been far more difficult to obtain than accident statistics. The present system used by the Health and Safety Authority involves a mixture of voluntary reporting by health care professionals and others, and “prescribed diseases” which are relayed from the Department of Social, Community and Family Affairs. Figures are only available for the health care sector from 1995 to 1999 inclusive and these are shown in Table 2.

<table>
<thead>
<tr>
<th>Year</th>
<th>Total of Disease Cases Reported</th>
<th>Disease Cases Reported in the Health and Social Work Sector</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>No.</td>
</tr>
<tr>
<td>1995</td>
<td>130</td>
<td>7</td>
</tr>
<tr>
<td>1996</td>
<td>91</td>
<td>5</td>
</tr>
<tr>
<td>1997</td>
<td>96</td>
<td>6</td>
</tr>
<tr>
<td>1998</td>
<td>48</td>
<td>11</td>
</tr>
<tr>
<td>1999</td>
<td>71</td>
<td>11</td>
</tr>
</tbody>
</table>

It is interesting to note that occupational disease in the Health and Social Work sector, as a percentage of the total number of diseases in all sectors, was 5% in 1995 and in 1996. In 1997 this was 6% of the total diseases reported to the Authority. In 1998 this was 23% and in 1999 this was 15.5%.

The overall numbers of reported diseases are extremely small and do not reflect the national burden of occupational disease. Consequently, it is unlikely that the apparent relative increase in 1998 and 1999 is significant.

1.3 Central Statistics Office

The Quarterly National Household Survey (QNHS), – formerly the Labour Force Survey (LFS) – from the Central Statistics Office (CSO) gives estimates of the numbers of self-reported accidents and episodes of work-related ill health for all economic sectors.
The QNHS for the health care sector is currently aggregated with the education sector. The Health and Safety Authority intends to approach the CSO to ask for disaggregation of this data when resources at the CSO make this possible.

Disaggregated QNHS data will provide a more reliable estimate of the total number of accidents in the health care sector.

### 1.4 Insurance Data

**TABLE 3**

ACCIDENTS TO EMPLOYEES OF HEALTH BOARDS NOTIFIED TO IRISH PUBLIC BODIES MUTUAL INSURANCES DURING THE PERIOD JANUARY 1994 TO OCTOBER 2000

(SORTED BY CAUSE AND YEAR NOTIFIED)

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Assault</td>
<td>45</td>
<td>14</td>
<td>66</td>
<td>17</td>
<td>72</td>
<td>20</td>
<td>81</td>
<td>24</td>
</tr>
<tr>
<td>Equipment</td>
<td>46</td>
<td>14</td>
<td>57</td>
<td>15</td>
<td>56</td>
<td>15</td>
<td>46</td>
<td>13</td>
</tr>
<tr>
<td>Domestic/Industrial Disease</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Lifting</td>
<td>49</td>
<td>15</td>
<td>64</td>
<td>17</td>
<td>63</td>
<td>17</td>
<td>63</td>
<td>18</td>
</tr>
<tr>
<td>Needlestick</td>
<td>64</td>
<td>19</td>
<td>54</td>
<td>14</td>
<td>53</td>
<td>14</td>
<td>33</td>
<td>10</td>
</tr>
<tr>
<td>Premises Defect</td>
<td>27</td>
<td>8</td>
<td>37</td>
<td>10</td>
<td>34</td>
<td>9</td>
<td>27</td>
<td>8</td>
</tr>
<tr>
<td>Slip, Trip</td>
<td>55</td>
<td>17</td>
<td>47</td>
<td>12</td>
<td>51</td>
<td>14</td>
<td>55</td>
<td>16</td>
</tr>
<tr>
<td>Stress</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>42</td>
<td>13</td>
<td>52</td>
<td>14</td>
<td>36</td>
<td>10</td>
<td>37</td>
<td>11</td>
</tr>
<tr>
<td>Not Advised</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>329</td>
<td>378</td>
<td>363</td>
<td>342</td>
<td>368</td>
<td>432</td>
<td>329</td>
<td>2552</td>
</tr>
</tbody>
</table>

Table 3 shows accidents notified to Irish Public Bodies Mutual Insurances, which insures the Health Boards, between January, 1994 and October, 2000, broken down by year and cause. These notifications represent actual and potential employee claims.

Examination of this sample of 2,552 accidents in Health Boards, from 1994 to 2000 indicates the three main causes of accidents as lifting, assault and slip/trip. The incidence of lifting accidents has increased in 1999, and remains a key concern in 2000. The incidence of claims notified for assault has been relatively stable. Slip/trip accidents are clearly preventable but remain a prominent cause of accidents in the health sector.

Given the attention paid to the prevention of needlestick injuries in the last five years, it is surprising that these accidents have not shown a greater reduction in numbers.

Needlestick injuries which, for the reasons outlined in the note on Table 1, do not figure in the Health and Safety Authority reported accidents, have ranged between 6% and 19% of the total over this period.
### Table 4
ACCIDENTS TO EMPLOYEES OF HEALTH BOARDS NOTIFIED TO IRISH PUBLIC BODIES MUTUAL INSURANCES DURING THE PERIOD JANUARY 1994 TO OCTOBER 2000
(SORTED BY OCCUPATION)

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attendant/Domestic</td>
<td>1,013</td>
<td>40</td>
</tr>
<tr>
<td>Tradesman</td>
<td>51</td>
<td>2</td>
</tr>
<tr>
<td>Clerical/Administrative</td>
<td>60</td>
<td>2</td>
</tr>
<tr>
<td>Doctor</td>
<td>36</td>
<td>1</td>
</tr>
<tr>
<td>Not Advised</td>
<td>601</td>
<td>24</td>
</tr>
<tr>
<td>Nurse</td>
<td>754</td>
<td>30</td>
</tr>
<tr>
<td>Other Professionals</td>
<td>37</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>2,552</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 4 shows the same accident claims sorted by occupation. It shows that the attendant/domestic grades are the largest group followed by nurses. They are particularly prone to accidents such as lifting, e.g. of those employees involved in lifting incidents, 62% are the attendant/domestic grades and 38% are nurses. (Source:- from the in-house statistics of Irish Public Bodies Mutual Insurances).

### Table 5
CLAIMS MADE BY EMPLOYEES OF THE DUBLIN VOLUNTARY HOSPITAL GROUP NOTIFIED TO MARSH MEDICAL RISK SERVICES DURING THE PERIOD JANUARY 1994 TO OCTOBER 2000
(SORTED BY CAUSE AND YEAR NOTIFIED)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>Assault</td>
<td>-</td>
<td>-</td>
<td>3</td>
<td>8.8</td>
<td>2</td>
<td>4.2</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Equipment</td>
<td>-</td>
<td>-</td>
<td>3</td>
<td>9.4</td>
<td>1</td>
<td>2.9</td>
<td>6</td>
<td>17.6</td>
</tr>
<tr>
<td>Domestic/Industrial</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Disease</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Lifting</td>
<td>4</td>
<td>16</td>
<td>6</td>
<td>17.6</td>
<td>6</td>
<td>12.5</td>
<td>2</td>
<td>5.6</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>4</td>
<td>16</td>
<td>7</td>
<td>20.6</td>
<td>7</td>
<td>14.6</td>
<td>8</td>
<td>22.1</td>
</tr>
<tr>
<td>Needlestick</td>
<td>4</td>
<td>16</td>
<td>3</td>
<td>8.8</td>
<td>13</td>
<td>27.0</td>
<td>5</td>
<td>13.9</td>
</tr>
<tr>
<td>Premises Defect</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td>8.8</td>
<td>3</td>
<td>6.3</td>
<td>2</td>
<td>5.6</td>
</tr>
<tr>
<td>Protective Gear</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Slip Trip</td>
<td>8</td>
<td>32</td>
<td>11</td>
<td>32.5</td>
<td>13</td>
<td>37.0</td>
<td>10</td>
<td>27.8</td>
</tr>
<tr>
<td>Stress</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>25</td>
<td>100</td>
<td>34</td>
<td>100</td>
<td>48</td>
<td>100</td>
<td>36</td>
<td>100</td>
</tr>
</tbody>
</table>


Table 5 shows actual claims made by employees against various Hospitals comprising the Dublin Voluntary Hospital Group between 1994 and October 2000 broken down by year and cause. The Hospitals within this group are the Adelaide & Meath Hospital incorporating the National Children’s Hospital, Beaumont Hospital, Cappagh National Orthopaedic Hospital, Mater Misericordiae Hospital, St. James’s Hospital, St. Vincent’s University Hospital, St. Michael’s Hospital, National Rehabilitation Hospital and the Children’s Hospital Temple Street.

In 1996 the Group established a Risk Management Forum to develop an effective Health & Safety Programme helping to improve quality within each member Hospital. The Forum helps provide healthcare managers with a co-ordinated approach to risk identification and control and facilitates ongoing measurement of the programme to ensure continued improvement. The benefit of this programme is clearly shown by the reduction in actual claim numbers.

Needlestick injury continues to be of major concern to the group given the number of claims and potential seriousness. A large proportion of needlestick injury occurs during the disposal process and most needlestick incidents involve injury to nursing staff.

Manual handling is the next most serious identified risk, associated with handling/carrying/lifting incidents.

Slip/trip accidents continue to be the major cause of claims within the group.

**TABLE 6**

ACCIDENTS TO EMPLOYEES OF THE DUBLIN VOLUNTARY HOSPITAL GROUP NOTIFIED TO MARSH MEDICAL RISK SERVICES DURING THE PERIOD JANUARY 1994 TO OCTOBER 2000

(SORTED BY OCCUPATION)

<table>
<thead>
<tr>
<th>Occupation</th>
<th>No of Claims</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attendant/Domestic</td>
<td>97</td>
</tr>
<tr>
<td>Tradesman</td>
<td>18</td>
</tr>
<tr>
<td>Clerical/Administrator</td>
<td>12</td>
</tr>
<tr>
<td>Medical/Paramedical</td>
<td>14</td>
</tr>
<tr>
<td>Security</td>
<td>3</td>
</tr>
<tr>
<td>Porter</td>
<td>50</td>
</tr>
<tr>
<td>Nurse</td>
<td>41</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>235</strong></td>
</tr>
</tbody>
</table>

Table 6 shows the same accident claims sorted by occupation. It shows that the attendant/domestic grades are the largest group followed by porters. Both groups are prone to accidents involving manual handling and needlestick injuries.
CHAPTER 2 Health and Safety Management in the Health Care Sector

2.1 Introduction

Apart from the clear moral imperative to secure the health and safety of people at work the law requires it. To manage health and safety one needs to know about workplace health and safety law. A comprehensive legal framework already exists for managing health and safety under the Safety, Health and Welfare at Work Act, 1989 and various other relevant statutory provisions. The thrust of the legislation is that it requires organisations and their managers to safeguard the safety, health and welfare at work of their employees and to manage their activities in such a way as to eliminate or minimise the risk of occupational accidents and ill-health so far as is reasonably practicable. The main legal duties of employers and employees are outlined in Appendix 2.

There are sound economic reasons for preventing and reducing work-related incidents and ill-health. Claims for compensation for injuries and ill-health sustained at work are high and growing. The hidden costs for accidents and ill-health include sick pay, increased insurance premiums, the loss of trained and experienced staff and the additional costs of securing replacement staff. Accidents and ill-health also affect delivery of service to patients, with increased waiting times or cancelled procedures etc. Effective managers have long recognised the need for good health and safety management. Organisations, which recognise the efficiency of savings gained by integrating health and safety management into the general management process, achieve a high standard of health and safety performance. Such organisations manage health and safety as they would their financial, service or quality objectives. Besides reducing costs, effective health and safety management promotes efficiency.

Health and safety principles are universal. The management of them requires that a well-structured health and safety management system should be adopted and implemented. The key elements of health and safety management are as set out in the attached diagram from the Health and Safety Authority’s ‘Guidance on Workplace Health and Safety Management’.

The experience of the Health and Safety Authority inspectors and members of the advisory committee was brought to the discussions on health and safety management. It is welcomed that the health services have employed health and safety professionals within the health care sector. The issues raised, while not indicative of all areas, are pertinent to a significant number and can be characterised as follows:-

▲ A reactive rather than a proactive approach to health and safety
▲ Insufficient awareness of health and safety issues among some managers
▲ Much training on specific hazards but not on health and safety management
▲ Data collection and analysis is poor and the need for same, with a view to future prevention, is generally poorly understood or implemented
▲ Health and safety, by and large, is not an issue of daily, or frequent, communication between staff, managers and management structure
▲ Safety statements often tend to be dust collectors
▲ Health and safety professionals and representatives are sometimes perceived as the people solely responsible for health and safety issues and day-to-day management of health and safety.
Key elements of a health and safety management system

1. Initial review
2. Health and safety policy
3. Planning
4. Implementation and operation
5. Measuring performance
6. Reviewing performance
7. Auditing

Feedback loop to improve performance
While Chief Executives have committed to raising standards, it doesn’t appear that this always translates down the line, as the above issues are symptomatic of poor health and safety management systems in the work place.

2.2 Recommendations

The Committee’s recommendations are that a safety culture using the ideas in the HSA ‘Guidance on Workplace Health & Safety Management’ (which are diagrammatically represented above) has to be adopted and nurtured. Every organisation should have a coherent policy which is committed to the prevention of accidents and ill-health at work. The policy should indicate that good standards of health and safety are a corporate aim, are integrated into the mainstream of the organisation and managed in the same way as other matters vital to the operation of the organisation. The policy needs to be underpinned by a culture which promotes better occupational health and safety. This culture represents a mix of shared values, attitudes and patterns of behaviour that give the organisation its particular character.

2.3 How to Promote a Safety Culture

- A senior manager should co-ordinate, monitor and implement the policy. The initiative must be led from the top down. (Chief Executive level).
- A health and safety review should be included in the annual service plan and form part of any annual report.
- Provision of adequate resources for implementation is vital.
- Responsibilities should be clearly defined from top management downwards.
- Health and safety responsibilities should be achievable, objective and measurable.
- Managers are responsible for health and safety in their area - their training should equip them with the capabilities to take this responsibility. This training must include learning about hazard identification, risk assessment and control.
- The role of the health and safety professionals should include re-orientation towards one of training and support for the organisation, most especially for the managers, to help them fulfill their responsibilities for health and safety management within their areas.
- Incidents should be investigated in order to aid prevention in the future and should identify the root cause and consequences of incidents namely cost, interruption to patient care and delivery of service.
- Maintenance departments should develop a rating system based on priority needs to enable them respond appropriately to maintenance issues.
- Managers should communicate on health and safety issues with their staff and across the management structure.
- Employees need to be made aware of the overall health and safety policy.
- Employees need to understand the importance and relevance of safety control measures.
- Employees must also understand the risks associated with their work-related activities and facilities.
- Employees should be consulted on health and safety matters and information on relevant risks should be communicated to them.
- Safety statements must be site specific and refer to the work that is being carried out in the particular area. The safety statement should be drawn up in consultation with the manager, employees and safety representative, with help/guidance from the health and safety professional. It must be a working document and should be at hand for use by the workers at any time. All employees must be made aware of the safety statement. The main body of the safety statement must contain hazard identification, written risk assessments and control measures. It should be up to date and have a review procedure built in.
An essential part of safety management system is a preventive maintenance system. An audit system should be introduced in Health Boards and institutions to ensure adequate quality and accountability in safety management systems. The importance of adequate consultation systems in promoting safety culture cannot be over-emphasised. The encouragement of safety representatives and safety committees is essential if the workforce is to take ownership of safety, health and welfare matters. If a safety culture is to be achieved then the consultation process will need to go beyond the bare requirements of the law.

The following is a diagrammatic, non-definitive, representation of the possible communication channels:

The management system for health and safety has to focus and operate up and down the central line of the diagram with support from the occupational safety, health and welfare services. The role of the safety representative is covered in section 13 of the Safety, Health and Welfare at Work Act, 1989, as set out in Appendix 2, Part 3.

### 2.4 Contractors

Contractors come on to health services premises to do many differing types of task, some of which are listed below viz.

- construction
- maintenance
- gardening
- installation of plant
- security
- catering
- cleaning
In dealing with contractors, small or large, the health services provider should only contract with people who:

- have a safety statement relevant to the work being undertaken
- comply with legal requirements
- are prepared to meet the accepted standards of the health services provider.

In the case of construction work the health services employer should seek to ensure that not only do they fulfil their own obligations as clients but that their contractors are also prepared to work in accordance with the provisions of the Safety, Health and Welfare at Work (Construction) Regulations, 1995.

There is a need for closer liaison between the technical services departments, safety officers etc., and those in the sector who actually award contracts and, indeed, with those who design premises. Appendix 3 gives more detailed guidance on the matter of dealing with contractors in the Health Care Sector.

REFERENCES

- Workplace Health & Safety Management - Health and Safety Authority.
- Guidelines on Preparing your Safety Statement and Carrying out Risk Assessment - Health and Safety Authority
- Code of Practice for Access and Working Scaffolds 1999
- Safety in Workplace Vehicles - Health and Safety Authority
- Health and Safety in Roofwork HS(G)33 – Health and Safety Executive (UK)
- Stay Safe on Site – Health and Safety Authority
- Safety, Health and Welfare at Work Act, 1989
- Safety, Health and Welfare at Work (General Application) Regulations, 1993
- Successful Health and Safety Management, 2000 HS(G)65 Health and Safety Executive (UK).
CHAPTER 3 Social and Human Factors

3.1 Introduction

The Health Services sector provides a unique and continuous service in support of the community. The nature of this service is such that it often entails unsocial working hours, frenetic activity and sometimes involves danger to the personal security of staff. Consideration is given in this chapter to four issues, namely,

- Stress,
- Aggression and Violence,
- Sleep Deprivation and Working Time
- Prevention of Bullying.

There is a very wide range of employments in the Health Services and it is not suggested that the above issues will have the same significance for all employees. Equally, it is not suggested that these are the only human and social factors which should be included in the safety statement. Matters such as disabled employees, language and literacy difficulties and pregnancy are among other issues, which may have safety, health and welfare implications and which should receive appropriate consideration.

However, the safety management system and the safety statement must evaluate these issues as they apply in each workplace and set out the means by which any risk associated with them is eliminated from the workplace, or controlled so far as is reasonably practicable.

Each issue is dealt with in turn and technical references are provided at the end of each section.

3.2 Stress

3.2.1 GENERAL COMMENTARY

It is important to note that this report is only dealing with the adverse effects of stress. Stress occupies a unique position among the four topics in that it may manifest itself as a result of any of the other three issues or it may be the result of something entirely separate.

There are various forms of stress and it is important to clarify and recognise the various forms which have been defined. In the first instance, stress is a psychological and physiological reaction in a person to their perception and interpretation of a danger or a demand. However, occupational stress is induced by virtue of the nature and conditions of a particular type of employment or occupation. It is important to realise that stress in an employee may be the result of factors which are not related in any way to the workplace.

Stress is a hazard in most working environments, but particularly so in the health sector. A strategy of coping, needs to be developed and there are two ways of doing this:

Direct - By change of work practices;
- By Prioritising work;
- Through peer support.
Indirect – By education and training development;
- By a properly focused leisure and relaxation plan.

At present, a palliative method of coping is most frequently used but it is the least acceptable.

Employing agencies have a duty of care to employees and that must be invoked. The high level of illness amongst employees in the health sector but, in particular, nursing staff and ambulance personnel, is a serious problem in financial terms, not to mention the interference in the smooth running of the Health Service.

Absenteeism, owing to stress-related illness, must be addressed – particularly by an active and realistic Occupational Safety, Health and Welfare Service, which would include a comprehensive and confidential counselling service.

### 3.2.2 TRAINING AND EDUCATION

It is a responsibility of management to ensure that all health care workers:
- develop an awareness of the existence of the various types of stress
- understand the possibility of adverse consequences
- be enabled to identify and recognise stress-related problems in themselves and others, and
- be aware of the correct procedures for dealing with identified problems.

Modules of instruction on stress and stress-related problems should be made available, appropriate to the needs of the individual or group of workers. In addition to the inclusion of instruction, it is important that seminars and discussion groups be used to develop awareness and understanding of stress-related problems, management techniques and coping strategies.

### 3.2.3 POST TRAUMATIC STRESS DISORDER

This condition may occur in those who have been exposed to events which fall outside the normal range of human experience. It is essential that appropriate measures be taken to prevent the development of post traumatic stress disorder in those who are seen to be in the ‘at risk’ category, e.g. nurses, medical staff, ambulance personnel and persons working unsocial hours.

### 3.2.4 COPING STRATEGIES

The first step in coping with stress is the development of an awareness of its existence. In this regard, individuals should be made aware of the various types of stress to which they may be exposed. The problem of coping with and managing stress can be tackled by the employment of individual strategies and the utilisation of group supports. Individual strategies are based on a personal stress management programme which includes emphasis on a healthy lifestyle and basic relaxation exercises. Group supports include the support of others within the organisation and the back-up provided by agencies such as counselling. Occupational Safety, Health and Welfare Services have a major role to play in this regard.

### REFERENCES

- The Experience of Stress amongst Irish Nurses – Irish Nurses Organisation
- Workplace Stress – Health and Safety Authority
- Doctors’ Perceptions of the Links Between Stress and Lowered Clinical Care-Soc Sci Med 1997; 44(7); 1017-22 – Firth-Cozens et al.
3.3 Aggression and Violence

In managing aggression and violence in the workplace health service employers must first recognise that all aggression and violence in the workplace is unacceptable – no level of violence should be accepted as “part of the job”. Nonetheless incidents of aggression and violence increasingly occur and it is critical that such incidents are addressed systematically by health care organisations. All episodes of aggression and violence experienced by employees should be regarded as serious.

The organisational management of aggression and violence is a difficult and complex matter. This is related to the fact that within the health services there are a wide variety of factors and circumstances that give rise to episodes of aggression and violence. Also, health care organisations owe (in some cases) a duty of care to the very perpetrators of some episodes of violence. There has been an apparent increase in the level of violence perpetrated against personnel in the health services. According to statistics from Irish Public Bodies Mutual Insurances (see Chapter 1, Table 3), 19% of all insurance claims over a six year period are as a result of “assault”.

Aggression and violence have to be managed in the same way as all other occupational hazards – hazards must be identified, risks must be evaluated, control measures must be put in place and evaluated for their effectiveness.

In identifying the hazards associated with aggression and violence the organisation must:

- consider all the elements that contribute to the occurrence of aggression and violence
- review past incident reports to ascertain any patterns
- review work practices and procedures to highlight any potential precipitants or causative factors
- identify potential victims of violence – assessing the various groups of employees that may be at risk
- identify isolated areas and potential weapons in the working environment
- identify potential assailants (patients / clients, angry relatives, intruders, thieves)

Having identified the hazards, the risks that these hazards pose must be evaluated:

- What precautions are in place? Are these adequate? What further measures need to be taken?
- Who is most at risk – actions must be prioritised
- What level of training have personnel had?
- How are employees expected to deal with the aggression – walk/run away? confront the aggressor? physically intervene in violent situations? initiate an emergency procedure? activate protective measures – e.g. physical barriers?
- Are employees competent to carry out the activities required of them?
- Are there clear guidelines for each member of staff indicating their course of action in a violent or potentially violent situation?
Identify circumstances and areas where violence is most likely to be expected

Evaluate the training required for individual employees

Evaluate the type of security presence required in order to provide a deterrent and protection for staff

Evaluate the requirements for such devices as alarms (personal and general) surveillance (CCTV), mobile phones, and two-way radios.

Ensure the provision of suitable interview rooms for one-to-one assessment of patients

Liaise with Gardaí

Regularly review management of aggression and violence including security systems

Statistics show that in general the most likely areas where aggression and violence may occur are in accident and emergency departments of hospitals and in psychiatric and learning disability units. Community workers, nurses, medical and paramedical staff are also in danger of aggression and violence. It must also be recognised that within the health services that there are occasions when staff are required to physically intervene in aggressive or violent situations to restrain behaviourally disturbed clients.

In such circumstances these staff require specific training to eliminate the risk of injury to either the staff or clients. Training must include:

- the recognition of potential aggression or violence
- precipitants and causes of aggression and violence
- de-escalation techniques
- physical intervention techniques
- ethical/professional considerations.

The health service providers owe a duty of care to patients and clients who sometimes are the perpetrators of the violence directed against employees. This makes the issue of violence in the health services a complex one. There is clearly a need for the availability of authoritative advice on best practice in training staff to deal with aggression and violence. The Committee recommends that the Health and Safety Authority, in conjunction with the Department of Health and Children, the Health Boards and the professional and representative organisations in the sector, as a priority, develop guidance in this area. The aim should be the provision of clear direction, advice and guidance on professional, legal and ethical ways in which to deal with aggression and violence in the health services.

The following is a non-exhaustive checklist of items, which should be considered in formulating a system for the management of aggression and violence.

- staffing levels (including duty hours)
- identification of high risk areas
- training of management, clinical and security staff
- panic button systems
- emergency direct-dial telephones
- closed circuit television plus monitoring of same
- parking areas and access to hospital, health care facilities from same
- lighting of paths and elimination of unnecessary shrubbery
- locks on entrances
security of reception area with good visibility
barriers between receptionists and patients
escape by evacuation
control of access to hospital areas
personal alarms
mobile phones
post-incident management, including a standardised procedure or protocol to be applied in all cases of aggression encountered by employees, including critical incident debriefing, and follow up counselling, if necessary

It is important to remember that items such as mobile phones/two-way radios or personal alarms do not provide protection in themselves but are dependant on back-up. They may give a sense of false security.

In addition to the risk assessments and risk reduction requirements which are demanded by Sections 6 and 12 of the Safety, Health and Welfare at Work Act, 1989 the employer must also have in place an adequate recording and reporting system as well as a system of post-incident management (see References).

REFERENCES

- Violence and Aggression to Staff in Health Services – Health & Safety Commission, U.K.
- Effective Management of Security in A & E – National Health Services Executive
- Guidelines for Protecting the Safety and Health of Health Care Workers -NIOSH (http://www.cdc.gov/niosh/hcwold3.html)
- Violence at Work in the Health Care Sector – Health & Safety Authority

3.4 Working Time and Sleep Deprivation

It is well established that excessively long working hours are a health risk.

Hours of work for most employees are controlled by the Organisation of Working Time Act, 1997, and the Safety, Health and Welfare at Work (Night Work and Shift Work) Regulations, 2000. Adherence to the provisions of this legislation should ensure that employees to whom it applies are protected from the effects of uncontrolled working hours. Pressures created by staff shortages can create undesirable situations. The hours of work of non-consultant hospital doctors (NCHDs) are not controlled by the above Act or Regulations. However, sleep deprivation is an issue which can arise with anybody who has to work very long hours or very irregular or unsocial hours. The effects of sleep deprivation vary from person to person, so it is difficult to make general rules regarding the issue.

In the past being “on-call” meant that an employee could be absent from the hospital, but available if required. Nowadays, however, increased demand, combined with staff shortages in the medical, paramedical, radiological and nursing areas, means that people “on-call” may not be able to leave their posts except for brief periods of the “on-call” time.

Long working hours combined with sleep deprivation affect the lives of non-consultant hospital doctors. The negative effects associated with junior doctors’ long work hours and working patterns result from a combination of long periods of time at work, insufficient sleep, and working at times when the biological clock is programmed for rest or sleep. For NCHDs, working hours are often so excessive that sleep time is severely restricted. It is well established that long working hours and sleep deprivation carry significant health and safety risks for employees.
NCHDs often have to work the type of hours which may result in sleep deprivation. Rotas in hospitals should be organised in such a way as not to force people to work excessive hours and risk the consequences.

Welfare facilities are of particular significance for all who work unsocial hours, but particularly for hospital doctors who have to be “on call” in residences.

In general terms the issues of excessive working hours and sleep deprivation are subject to the provisions of Section 6 (2) (d) and 6 (2) (i) of the Safety, Health and Welfare at Work Act 1989. These provisions apply to all employees.

6 (2) (d) “the provision of systems of work that are planned, organised, performed and maintained so as to be, so far as is reasonably practicable, safe and without risk to health.”

6 (2) (i) “the provision and the maintenance of facilities and arrangements for the welfare of his employees at work.”

Furthermore Section 12 of the Safety, Health and Welfare at Work Act, 1989, requires that hazards and risks be addressed in the safety statement. Therefore the safety and health hazards which may arise from excessive working hours and from sleep deprivation, for all employees, are matters requiring to be addressed under the above mentioned sections of the Act.

The European Court of Justice has addressed a matter pertaining to working hours (see reference). The effect of the judgement, which was delivered on the 3rd October 2000, is to clarify the situation regarding hours of work and “on-call” time by confirming that:-

▲ activities of doctors in primary health care teams fall within the scope of Directive 89/391/EC (the framework directive on health and safety at work) and the Working Time Directive

▲ Hours of work “on-call” where the doctor is required to be at the health centre are to be regarded as working hours

The solution to this problem lies in a combination of competent management of rotas and increased staffing.

REFERENCES

▲ “The Effects of Excessive Work Hours on the Health, Safety and Welfare of NCHDs” - Moira Mallon, Irish Medical Organisation, Research Policy Unit

▲ European Court of Justice ( C-303/98, SIMAP v. Conselleria de Sanidad y Consumo de la Generalidad Valenciana)

▲ The Safety, Health and Welfare at Work Act, 1989

▲ The Organisation of Working Time Act, 1997


3.5 Prevention of Bullying

The guideline “Anti-Bullying Policy for the Health Service” published by the Health Services Employment Agency in 2000 describes bullying as;
“persistent, offensive, abusive, intimidating, malicious or insulting behaviour, abuse of power or unfair penal sanctions, which make the recipient feel upset, threatened, humiliated or vulnerable, which undermines their self confidence and which may cause them to suffer stress”

A person may be subjected to bullying by a manager, colleague or employee(s) under his/her supervision or by a member of the public. Bullying may be perpetrated against an individual or a group of employees.

Bullying should be distinguished from other complaints which are capable of being resolved through the normal grievance procedure, such as complaints relating to the assignment of duties, rostering, deployment, timing of annual leave, etc. Complaints, which are appropriate for referral under the normal grievance procedure, are usually relatively straightforward to formulate as they refer to a specific issue or incident. A complaint of bullying, however, is often difficult to articulate as it may involve a series of small, seemingly innocuous incidents which gradually undermine the victim’s dignity and self-respect.

It is evident that bullying is a problem in the health services. The Commission on Nursing reported that many nurses and midwives, in discussions at the consultative forum and in written submissions, complained of bullying in the workplace. The Commission went on to report “it appeared from the views expressed by nurses during the consultative process that bullying may be taking place at a variety of levels in nursing and midwifery. The Commission heard of complaints of bullying from students, staff nurses, midwives and from management”.

The Advisory Committee welcomes the report of the Task Force on the Prevention of Workplace Bullying which was published in April 2001. This report highlights the need for a management commitment which does not tolerate bullying behaviour at any level among its staff.

Bullying is a possibility in all organisations, both large and small, and an employer should have an appropriate anti-bullying policy both to prevent bullying and to deal with cases speedily should they arise. Not dealing with cases speedily will give rise to worsening of the situation and may increase the psychological damage involved. The matter of bullying should be addressed in the safety statement.

REFERENCES

- “Anti-Bullying Policy for the Health Services” - Health Services Employers Agency
- The Commission on Nursing 1998 - A Blueprint for the Future
- Dignity at Work - The Challenge of Workplace Bullying - Report of the Task Force on the Prevention of Bullying in the Workplace
CHAPTER 4 Manual Handling

4.1 Definition of Manual Handling

Manual handling means any transporting or supporting of a load by one or more employees and includes lifting, putting down, pushing, pulling, carrying or moving a load, which, by reason of its characteristics or unfavourable ergonomic conditions, involves risk, particularly of back injury to employees.

4.2 The Legal Requirements Regarding Manual Handling

In a health services setting many employees will be involved in some level of manual handling, therefore it is essential that the employer is aware of the requirements under the Manual Handling regulations which are contained in Part VI of the Safety, Health and Welfare at Work (General Application) Regulations, 1993 (S.I. No.44 of 1993). In summary, the key aspects of these Regulations include that:

- The employer must take appropriate organisational measures, or use the appropriate means, in particular mechanical equipment, to avoid the need for the manual handling of loads by employees in the workplace.

- Where the need for the manual handling of loads cannot be avoided, the employer must take appropriate organisational measures, use appropriate means or provide his employees with such means in order to reduce the risk involved in the manual handling of such loads having regard to the factors specified in the Eighth Schedule to the Regulations.

- Wherever the need for manual handling of loads cannot be avoided, workstations should be organised in such a way as to make such handling as safe and healthy as possible. This involves:
  - Assessing the conditions of the type of work involved
  - Taking care to avoid or reduce the risk, particularly of back injury to employees

In essence the employer must

a) carry out a task audit in all areas of the hospital to identify those tasks which involve manual handling,

b) plan to eliminate or avoid unnecessary high-risk manual handling activity, and

c) if this is not possible, take appropriate organisational measures or use appropriate means to reduce the risk.

Without doubt, a key aspect of any manual handling programme must be a comprehensive risk assessment for all tasks identified as having a level of manual handling during the task audit. This assessment will give the employer a better understanding of the tasks, an appreciation of the risk and an opportunity to make improvements. This risk assessment must make reference to the Eighth Schedule in the General Application Regulations, 1993 (S. I. No. 44 of 1993). See Appendix 4 for further details.

The overriding principles for prevention of injury in relation to manual handling are:

- Elimination of manual handling where possible
- Assessing remaining risks
- Taking steps to reduce them.
4.3 Ergonomics

In the legislation the definition of manual handling refers to unfavourable ergonomic conditions.

DEFINITION OF ERGONOMICS

“Application of relevant information about human capabilities, limitations, and behaviour to the design of work systems, equipment and procedures; which people use and the environment in which they use them” (McCormick and Saunders 1993)

The principal focus of ergonomics has tended to be upon “work” in the occupational sense of the word. Work involves the use of tools. Ergonomics is concerned with the design of these and, by extension, with the design of work environments for human use in general. The ergonomic approach to design may be summarised as:

“If an object, a system or an environment is intended for human use, then its design should be based upon the physical and mental characteristics of its human users.”

The objective is to achieve the best possible match between the job and the worker. In other words, ergonomics is the science of fitting the job to the worker. In considering ergonomics in terms of manual handling, it is essential to point out that there are a number of factors which must be assessed in terms of trying to find the best match between the job and the worker such as:

- The task
- Individual capacity
- Characteristics of the load
- Physical effort required and requirements of the activity
- Characteristics of the work environment

Manual handling must be tackled through an approach based on ergonomics.

4.4 Carrying out Manual Handling Assessments

4.4.1 GENERAL

It is important to see the process of carrying out a risk assessment as being separate from finding the solution. The assessment is done to identify the risks. When that is complete, the solution can be defined. This is then tested to see if it controls the risks that were identified.

The Regulations require employers to carry out both general and specific assessments of the manual handling operations in the workplace. It is the employer’s responsibility to ensure that the risk assessment is carried out. This should be carried out in consultation with staff and relevant competent personnel. Particular tasks may require the expertise of an outside assessor.

A general assessment is required to look at:

- the type of work being carried out
- the general characteristics of the load being handled
- the equipment available
- the working space

In some situations, it may be possible to rely on the general or generic assessments. However, in some cases,
it may be necessary to carry out a separate assessment of every lift of every load. This is certainly the case in the health care services. Patient conditions differ and therefore, every patient presents different risks.

In the health care setting whether the risk assessment refers to an animate object (patient) or inanimate object (e.g. box) the same principles apply.

4.4.2 THE TASK
A careful assessment is required of situations where the task involves:

- Holding loads at a distance
- An awkward, twisted, stooped or unstable posture
- Repetitive movements
- Handling overhead
- Excessive pushing/pulling
- Excessive lifting
- Excessive carrying
- Insufficient rest periods

4.4.3 THE WORKER
The worker should:

- Wear loose fitting clothing that allows them to move
- Receive adequate training
- Be aware of the need to be fit and flexible
- Comply at all times with safe systems of work

4.4.4 THE LOAD
During handling procedures, consideration should be given to the following:

**Patient**

- Weight
- Level of co-operation
- Physical status
- Reliability
- Special needs (joints/wounds)
- Attachments, e.g., drips, drains and catheters

**Object**

- Size, weight
- Unwieldy or difficult to grasp
- Unstable or has contents likely to shift
- Positioned in a manner requiring it to be held or manipulated at a distance from the trunk, or with a bending or twisting of the trunk, or
Likely, because of its contours or consistency (or both), to result in injury to employees, particularly in the event of a collision

**The Environment**
Consider and modify:
- Space restraints
- Uneven, slippery, unstable floor
- Extremes of temperature
- Lighting
- Ventilation
- Storage
- Availability of adjustable equipment

**Other Factors**
In addition, the following should be considered:
- Staffing levels
- Rostering/shift work
- Supervision
- Incident reporting
- Enforcement of the policy

### 4.5 Appropriate Equipment to Implement Policy
Appropriate equipment to implement policy may include:
- Adjustable height furniture
- Electric and mechanical hoists
- Appropriate slings for hoist and patient
- Sliding equipment (transfer boards, sliding sheets, file slides, patslide etc.)
- Turntables
- Handling belts/slings
- Wheelchairs with removable arms

Wherever practical, handling aids must be provided to eliminate the need for manual handling. Training in their use and versatility is essential. All mechanical aids should be regularly serviced and the date of the servicing should be clearly visible on the aid. Ongoing maintenance programmes for all mechanical aids should be in place. All aids should be inspected to assess condition prior to use.

### 4.6 Manual Handling Training
The following are essential elements:
- The law as it relates to manual handling
Basic information on the structure of the spine and how injuries take place from manual handling
Instruction in basic biomechanical principles
Instruction on personal fitness for manual handling, including practical exercises for fitness, flexibility and muscle toning
Instruction on the ergonomic approach to manual handling
Instruction on risk assessment in relation to manual handling including patient handling
Instruction on the principles of manual handling
Information on the practical application of the manual handling policy and procedure
Demonstration and practice in the use of appropriate handling aids
Problem solving in manual handling situations

It is important to remember that an appropriate approach to manual handling of patients means patients are not lifted manually. That is, the total weight of the patient or a large part of it is not lifted – (except possibly in an emergency situation), but does allows the caregiver to give the necessary assistance.

In an emergency situation, when speed is of the essence, the caregiver is at greater risk of injury because there is no opportunity for recovery and the handling task cannot readily be pre-planned. There are four basic methods of emergency evacuation. These are in order of priority; walking, wheeled transport, sliding along the floor and carrying. An emergency is the time when the normal principles of manual handling may be forgotten or disregarded because of imminent danger. Manual techniques for emergency evacuation are methods of last resort. They are extremely stressful and exhausting. However, in an emergency their use may be unavoidable. For these reasons, management and staff are advised to plan ahead and practice these techniques using both equipment and manual methods so that should the situation arise, there is some level of preparation, although by no means complete.

REFERENCES

- The Guide to the Handling of Patients, Revised 4th edition. Published by the National Back Pain Association in collaboration with the Royal College of Nursing.
- Guidelines – Caring with Minimal Lifting, Health and Safety Authority.
- Manual Handling Policy – Eastern Health Shared Services Centre, Dr. Steeven’s Hospital, Dublin 8.
CHAPTER 5 Biological Factors

5.1 Biological Agents - Controlling the Risk of Occupational Infection

Biological agents refer to micro-organisms, mainly bacteria and viruses, which are able to provoke any infection, allergy or toxicity. The specific legislation covering biological agents is:-

1) the Safety, Health and Welfare at Work (Biological Agents) Regulations, 1994 (S.I. No. 146 of 1994), as amended by

Although the Regulations define the hazardous effects of Biological Agents as “infection, allergy or toxicity”, the main hazard, in the health care sector, is infection. Employing authorities are obliged to prevent exposure to biological agents at work where the results of the risk assessment reveal a risk to health care workers’ health and safety. Risk assessment must be carried out in accordance with Regulation 4 of the Biological Agents Regulations. It is the responsibility of Heads of Departments to assess the level of risk for each health care worker.

ROUTES OF INFECTION

Health care workers may become infected through ingestion, inhalation, absorption and injection. The sources of infection are droplets, aerosols, and direct contact with body fluids.

5.2 Blood Borne Infections

Health care workers are at risk from occupational exposure to blood borne pathogens. Blood can be an infection hazard because it gets in through a wound, needlestick or other “sharps” injury, or by way of a human bite. Blood can also infect by way of the “mucous membranes” (nose, eyes), or through already damaged skin. The well-known blood borne pathogens are:-

▲ Hepatitis B virus (HBV)
▲ Hepatitis C virus (HCV)
▲ Human Immunodeficiency Virus (HIV)

There may be, as yet, unidentified blood borne viruses and there are, at the moment, no immunisations available for HCV and HIV. For this reason, the only defence against these are strict adherence to “Standard Precautions” (see Appendix 5, Part 1), the prevention of sharps injuries (see Appendix 5, Part 2) and a clear post sharps injury procedure (see Appendix 5, Part 3).

Apart from putting these policies in place, it is essential that they are known to all employees and others who may be affected and the basic principles of these policies must be part of staff induction training and regular re-training.

HEPATITIS B VACCINATION POLICIES

All health care workplaces should have a written policy on Hepatitis B vaccination (HBV) included in their safety statement. This applies even where exposure is considered to be minimal (i.e. where injections or blood sampling are not part of the daily routine, such as in the care of the elderly). Vaccination schedules should ensure that the full course of injections has been taken and immune response proven by laboratory
testing. Detailed guidelines on Hepatitis B are available from the Faculty of Occupational Medicine at the Royal College of Physicians of Ireland.

5.3 Tuberculosis

Tuberculosis is spread mainly by the airborne route. The risk to health care workers is related to the prevalence of tuberculosis in the general population. The incidence of tuberculosis in Ireland has decreased, but remains high when compared to other European countries. Greater vigilance is required as a result of greater global travel.

An assessment must be carried out of all health care workers to determine those at risk. Mortuary workers and laboratory workers handling specimens and all staff in regular contact with patients are at risk.

TUBERCULOSIS PREVENTION

Tuberculosis prevention procedures should be set out in the safety statement. They should include policy on pre-employment screening procedures, tuberculin skin testing, B.C.G. vaccination and particular vulnerability, (HIV infection, diabetes, etc.). There should also be a written policy on contact tracing. Full details are available in the guidelines on “Tuberculosis in Health Care Staff” available from the Faculty of Occupational Medicine of the Royal College of Physicians of Ireland.

5.4 MRSA

“Staphylococcus aureus” is commonly found on the skin and in the nose of most people and is responsible for such common infections as boils. It can be successfully treated with antibiotics.

MRSA is the term used to describe Methicillin Resistant Staphylococcus aureus. MRSA is resistant to almost all commonly used antibiotics. Expensive and potentially toxic antibiotics have to be used to treat it. Staff caring for patients who have acquired MRSA may become colonised. The main means of spread is on the hands of health care workers during patient care. Colonisation means that the worker carries the organisms in the nose and on the skin but has no signs or symptoms of infection. Hand washing after patient care is the most effective method of preventing the spread and colonisation of MRSA.

While it is important to ensure that staff do not become carriers, colonisation with MRSA does not indicate infection and poses no threat to the healthy immunocompetent worker. Health care workers whose immune systems are compromised for any reason, e.g. chemotherapy or HIV, should notify their supervisors so that they can be referred for occupational health advice as to their suitability for work involving exposure to MRSA. The principles of MRSA relevant to occupational health are outlined in Appendix 5, Part 4.

REFERENCE

MRSA for Health Care Personnel – Department of Health and Children

5.5 Transport of Infectious Material

The transport of infectious substances including diagnostic specimens is legislated for at present by the Dangerous Substances (Conveyance of Substances by Road) (Trade and Business) Regulations, 1980. This legislation is due to be replaced by new Regulations under the Carriage of Dangerous Goods by Road Act, 1998. Both of these sets of Regulations use the European Agreement concerning the International Transport of Dangerous Goods by Road (ADR). The safe transport of infectious substances and diagnostic samples is the responsibility both of those dispatching the specimen and of the courier transporting the
specimen. There is also a duty of care under the Safety, Health and Welfare at Work Act 1989, the General Applications Regulations 1993 and the Biological Agents Regulations 1994 to ensure that those samples do not pose a threat to any persons coming in contact with them. Those dealing with diagnostic samples in transit include:

- Health care workers generally
- Taxi drivers
- Postal workers
- Couriers
- Van drivers
- Receptionists
- Porters
- Ambulance workers
- Members of the public

There is also a duty on those responsible to assess the risk from specimens and to package them so that they do not pose a threat to any person coming in contact with them. A safe means of transporting diagnostic specimens in compliance with International Regulations and National Regulations is attached at Appendix 5, Part 5.

5.6 Other Infectious Hazards

Advice should be sought from the Occupational Health Services on other infectious hazards. These include Hepatitis A, Rubella, Varicella, Measles, Mumps, TSEs(CJD), Helicobacter pylori. It is not possible to deal with all these issues here. Vulnerable groups include student nurses, paediatrics workers, mortuary technicians and workers in mental handicap care etc. and they should receive particular consideration.

5.7 Waste Management

In October 1999, the Department of Health and Children produced guidelines to deal with the segregation, packaging and storage of healthcare risk waste. Health care workers handling and disposing of healthcare risk waste are at risk of exposure to infection from sharps-related accidents and from leaks and spills of waste materials. Health care facilities and organisations must take reasonable care to reduce the risk to healthcare workers, as well as to patients and their visitors, contractors and also to the environment.

A local waste management policy should be drawn up to assist in the proper management of healthcare waste, based on the Department of Health and Children guidelines.

5.8 Laboratory Safety

LABORATORY CONTAINMENT LEVELS

Regulation 12 of the Safety, Health and Welfare at Work (Biological Agents) Regulations 1994, requires those in control of healthcare diagnostic laboratories to determine containment measures in accordance with the Seventh Schedule to the Regulations, in order to minimise infection in laboratories carrying out work which involves the handling of group 2, 3 or 4 biological agents for research, development, training or diagnostic purposes.
Those in control of laboratories must assess the risk using the classification referred to in the Biological Agents Regulations. Assessment must be carried out taking account of the route of infection, the scale and nature of the job, the immune status of the health care workers as well as the infective dose. Risk assessment will also include:

- The hazard group of the biological agents
- The virulence of the agents
- The amount of the agents handled

Employers are also obliged to provide information, instruction and training for those handling biological agents. Detailed guidance on laboratory containment levels are available in the guidelines provided by the “Advisory Committee on Dangerous Pathogens”.
6.1 General

Chemical hazards represent a key health and safety issue in the health care sector. These may include exposure to various chemicals and drugs, etc. Some of the potential chemical exposures include formaldehyde (used for preservation of specimens for pathology); ethylene oxide; glutaraldehyde (used for sterilisation); and numerous other chemicals used in health care laboratories. Appendix 6 contains a list of chemicals that were found to be used in a hospital in the United States. All hospitals will not use all these chemicals. In addition to the medical/nursing/paramedical staff, large health care facilities employ a wide variety of other workers who may be exposed to chemical hazards. These include maintenance, housekeeping, catering, laundry, administrative staff, and contractors etc.

The main legislation protecting workers from the risks to chemical agents at work include the Safety, Health and Welfare at Work (Chemical Agents) Regulations, 1994 (S.I. No. 445 of 1994). The Regulations define a chemical agent and outline the duties of employers in relation to the prevention and limitation of exposure of employees to chemical agents in the workplace. These regulations are supported by a Code of Practice (COP) (1999) which sets down occupational Exposure Limits (OEL) for a number of hazardous substances. An updated COP is due for publication in early 2001. The European Communities (Classification, Packaging, Labelling and Notification of Dangerous Substances) Regulations, 2000, (S.I. No. 393 of 2000), which are based on a hazard identification system, regulate the communication of these hazards and risks by means of appropriate labels on containers and preparation of Material Safety Data Sheets (MSDS). Similar provisions arise in the European Communities (Classification, Packaging and Labelling of Dangerous Preparations) Regulations, 1995 and 1998, (S.I. No. 272 of 1995 and S.I. No. 354 of 1998). More stringent requirements are placed on employers and employees exposed to carcinogens in the Safety, Health and Welfare at Work (Carcinogens) Regulations, 1993 (S.I. No. 80 of 1993). These Regulations require identification of category 1 or 2 carcinogens in the workplace, elimination or substitution where practicable, monitoring of the workplace, provision of information, health surveillance and training of workers exposed to carcinogens. The 1993 Regulations are due to be replaced by new Regulations in 2001.

Chemicals may exert either acute or chronic effects on workers. The effects depend on:

1) the route of exposure – inhalation, ingestion, and absorption through the skin, local effect on skin
2) extent (concentration and duration) of exposure
3) the physical and chemical properties of the substance

The effects exerted by a substance may also be influenced by the presence of other chemicals and physical agents or by an individual’s use of tobacco, alcohol, or drugs, environmental conditions, age, sex and genetic phenotype.

PRINCIPLES FOR HEALTH AND SAFETY

For all chemicals the principles for health and safety remain the same:

- Identify the hazard
- Assess the risk
- then either eliminate it
- find a substitute
- contain it
Identify what chemicals are in use, carry out a risk assessment – evaluate the risk of injury or ill health arising from exposure, including:-

- Likely extent and severity of harm
- Frequency of exposure
- Number of people exposed

Information required could be as follows:-

- Consult the Material Safety Data Sheet (MSDS)
- Specific name of the substance and quantities used
- Form of the substance (liquid, gas, vapour)
- Number of workers, maintenance personnel, cleaners, laboratory staff etc. likely to be exposed
- Likelihood of accidental spillage or failure of the system
- Occupational exposure limits that apply to the substance

The risk assessment should be in writing and reviewed at intervals, and whenever the following situations occur:-

- Controls are found to be inadequate
- Monitoring results indicate that the levels are rising towards or above the limits
- Ill-health or sicknesses are reported for the work area
- New information on the health hazard of the chemical emerges
- New or improved systems/techniques are developed
- Significant change occurs in the work being carried out, e.g. changes in working hours, or changes in the quantity or physical form of the substance

**CONTROL STRATEGIES**

- Elimination of the chemical agent is the ideal option
- Substitution with a less hazardous chemical agent
- Less hazardous form of the chemical agent or a process manipulation
- Engineering controls e.g. closed system, local exhaust ventilation etc.
- System of work designed to minimise exposure

Personal protective equipment is acceptable only as a last resort.

It is not feasible in this report to address all chemicals individually. Glutaraldehyde, formaldehyde, and medical gases are briefly outlined. Latex glove usage will be discussed, although latex is a not a chemical, chemicals are involved in the process. Further information is provided in Appendix 6.

### 6.2 Glutaraldehyde

Glutaraldehyde is a disinfectant used widely in the health services, its trade names include ‘cidex’, ‘totacide’ and ‘asep’. It is used in many areas but the more common are - endoscopy units, theatres, X-ray film processing, dental units, and ear, nose and throat units. Glutaraldehyde is green and has a sharp odour.
EXPOSURE EFFECTS
Glutaraldehyde can irritate skin, eyes, throat and lungs. More importantly it can sensitise the skin, and respiratory system. Once sensitised, further exposure to even very small amounts of the substance can lead to:

- Dermatitis
- Rhinitis and conjunctivitis
- Asthma

See Appendix 6, Part 2 for further details.

6.3 Formaldehyde
Health care professionals may also be exposed to formaldehyde. In the hospital setting formaldehyde may be encountered in the pathology laboratory, as a tissue preservative; in the mortuary, as an embalming fluid; and in the central supply and dialysis unit as a sterilant. Formaldehyde is often used as a formalin solution by combining it with methanol and water.

CHEMICAL PROPERTIES
Formaldehyde is a gas with a strong, pungent odour. It is very soluble in water, and both the gas and the water solutions are colourless.

- 1 parts per million (ppm) – odour is detectable
- 2-3 ppm – noticeable irritation of the eyes, nose, throat and windpipe, which may produce a cough
- 4-5 ppm – tears form
- above 10 ppm – breathing becomes difficult, severe burning sensations develop in the nose, throat and windpipe, and extreme tearing occurs
- 50-100 ppm – may cause pulmonary edema, pneumonitis and death

Most people cannot tolerate in excess of 10 ppm for more than a few minutes.

EXPOSURE EFFECTS:
Chronic, long-term exposure to low, sub-acute levels of formaldehyde may cause respiratory irritation, obstruction of the airways, impaired lung function, allergic reactions and eczema. Repeated exposure, even at quite low concentrations, may cause sensitisation in some individuals, resulting in nasal or bronchial reactions such as chest tightness. Dermatitis is a common problem.

Acute, short-term exposure to high levels can be fatal. However, the odour threshold is low enough that irritation of eyes and mucus membranes will occur before these levels are achieved at 100ppm (see Appendix 6, Part 3 for further details).

6.4 Medical Gases
For the purpose of this report see Appendix 6, Parts 4 and 5 for information on ensuring safe, efficient and reliable supplies of medical gases and the use of anaesthetic gases in theatre, recovery etc.
6.5 Glove Usage

There has been a substantial increased demand for latex gloves worldwide following the introduction of standard precautions to prevent contact with potentially infected body fluids in the wake of AIDS and hepatic illness.

PROPERTIES

Natural rubber latex is a processed plant product of which 99% of the world’s supply is derived from the latex of the Hevea brasiliensis tree. The cloudy liquid latex is collected from the tree, then goes through a complex manufacturing process involving the addition of chemicals. Sources of exposure to latex include latex gloves, balloons, condoms, catheters, airways and many other products and medical devices.

GLOVE RELATED ALLERGIES

With increased exposure to latex, the issue of allergy to latex is a growing problem. Healthcare workers are at risk of developing latex allergy because they use latex gloves frequently. Chemical accelerators used in the production of gloves can also lead to allergies. The amount of latex exposure needed to produce sensitisation or an allergic reaction is unknown. Studies of other allergy causing substances provide evidence that the higher the overall exposure in a population the greater the likelihood that more individuals will become sensitised. Reports about prevalence of latex allergy vary greatly. However, recent reports indicate that about 1% - 6% of the general population and about 8% - 12% of regularly exposed health care workers are sensitised to latex (see Appendix 6, Part 6 for further details).
CHAPTER 7 Potential Physical Hazards and Related Issues

7.1 General

Potential physical hazards comprise a large range of topics which must be considered in the Safety Statement and which require to be managed safely, including:

- Machinery
- Special Medical Equipment
- Electricity
- Radiations
- Noise
- Ventilation
- Heat and pressure vessels
- Fire
- Maintenance
- Housekeeping
- Welfare
- Asbestos
- Construction

In any consideration of physical hazards in the workplace, matters such as safe equipment, maintenance, housekeeping and training are essential ingredients in the safe management of the workplace.

It is essential that an effective preventive maintenance programme be in place in health services premises. Such programmes should be adequately funded, staffed and managed effectively. They should run separately from the day-to-day breakdown and repair regime.

Housekeeping standards have an influence on all aspects of safety, health and welfare and are dependent on efficient management.

It was not considered necessary in this report to go through all the matters listed above in detail, however, the following topics were considered in some detail by the Committee.

- Slips, trips and falls
- Electricity
- Welfare
- Asbestos
- Fire

7.2 Slips, Trips and Falls

Slips trips and falls remain a significant cause of injury in the health services sector. The 1992 Report of the Advisory Committee on the Health Services Sector shows that for the three-year period 1989 to 1991 injuries
from slips, trips and falls accounted for 19% of all injuries. Figures provided for the current report show that for the period 1997 to 2000 injuries from slips trips and falls account for roughly 21% of all injuries in the sector.

The key to accident reduction in this sector, as in other sectors, lies in competent management of the hazards so that risk is reduced as far as possible. The following are some of the factors which are significant in causing accidents in this area:

- poor housekeeping
- poor maintenance
- wet or oily surfaces
- occasional spills
- unsuitable flooring types
- damaged surfaces
- trailing cables or pipes
- overcrowding and clutter on walkways
- poor lighting
- poorly made or maintained stairs
- poorly maintained ladders or other means of access

Human factors may aggravate the situation in that they may create conditions under which accidents are more likely to happen, for example:

- time pressure – quick responses
- pulling of loads – walking backwards
- shift change – failure to pass on knowledge of risk
- physical impairment

WALKING SURFACES

Walking surfaces need to be as slip resistant as is consistent with hygiene. Cleaning procedures and materials should be chosen with the aim of reducing risk of slipping.

FOOTWEAR

While use of protective footwear is increasing, generally it is recommended that staff wear rubber-soled shoes with broad heels for good grip and balance. The shoes should be comfortable and provide support. Slip-on and clog-type shoes should be discouraged (see References).

7.3 Electricity

7.3.1 ELECTRICITY IN HEALTH SERVICES

The legal requirements are contained in:-

- Safety, Health and Welfare at Work Act, 1989 and
- Safety, Health and Welfare at Work (General Application) Regulations, 1993

In particular, Regulations 33 – 53 of the General Application Regulations cover electrical matters.
These Regulations do not apply to Medical Electrical Equipment, but such equipment must be installed, maintained, protected and used so as to prevent danger.

The following requirements must be satisfied in relation to electricity and its use:

7.3.2 CONSTRUCTION AND INSTALLATION
This should be to the standard of the Electro-Technical Council of Ireland, National Rules for Electrical Installations ET 101 / 1991.

7.3.3 PROTECTION AGAINST SHOCK
There must be:

- “Normal Conditions” protection against direct contact mainly by insulation.
- “Fault Conditions” protection against direct contact, by earthing, automatic disconnection insulation and residual current devices.

7.3.4 PORTABLE EQUIPMENT
Should be protected by Residual Current Devices (RCDs). These should have 30 milli-amp tripping current.

One of the problems in many, mainly older, health-care premises can be the lack of Residual Current Devices.

7.3.5 MEDICALLY USED ROOMS
The Electro-Technical Council of Ireland National Rules for Electrical Installations (2nd Edition) and the National Rules for Electrical Installations in Medically Used Rooms apply. These rules are intended to ensure the safety of persons and property and the safety of persons in Medically Used Rooms (see References).

7.4 Welfare
The issue of the provision of welfare facilities in workplaces is generally covered by Regulation 17 of the Safety, Health and Welfare at Work (General Application) Regulations, 1993.

However, the health services sector presents an unusual set of circumstances which are not specifically catered for. In the hospital setting employees mainly hospital doctors will be required by the nature of their work to live on the premises for periods of their work.

There is a need to amend the above-mentioned Regulations in relation to welfare to take account of the circumstances where “on-call” duty demands attendance on the work premises for protracted periods.

Even in the absence of regulations it is essential that employers would provide adequate facilities.

7.5 Asbestos
The issue of asbestos in the health services arises because of its continued use as a construction and insulation material up to recent times due to its fire retardant properties.

Programmes have begun in many premises to eliminate asbestos and the dust, which results from removal and demolition, is a hazard for all who are in the vicinity.

The solution lies in the use of expert contractors for removal and in the competent management of the projects (Appendix 7 gives further information – see also references at the end of this Chapter).
7.6 Fire Safety

Consultation has shown that there is a need felt in the health services for a nationally agreed training syllabus for fire officers and also for the development of national standards for fire safety in non-health board premises which are serviced by health board staff.

The advice of the local fire prevention officer should be sought in all cases and followed.

Appendix 8 gives an overview and guidelines on the subject.

REFERENCES

- Work Place Floor Surfaces Safety Issues – S.N Taylor RIBA – Specialist Inspections Report No. 55 - Health and Safety Executive
- The Safety and Health Practitioner (SHP) September 2000 – Institute of Occupational Safety and Health
- Safety, Health and Welfare at Work (General Application) Regulations, 1993
- The Electro Technical Council of Ireland National Rules for Electrical Installations in Medically Used Rooms.
- Safety with Asbestos – Health and Safety Authority publication
- European Communities (Protection of Workers)(Exposure to Asbestos) Regulations, 1989 - (S.I. No. 34 of 1989)
PRESENTATIONS MADE TO THE ADVISORY COMMITTEE

**Assaults/Violence**
Mr. Dave Egan, Head of Security, Adelaide & Meath Hospital, Tallaght
Mr. Mark Rowlands, Inspector, Health and Safety Authority

**Manual Handling**
Mr. Alan Connolly, Irish Public Bodies Mutual Insurances

**Slips, Trips and Falls**
Mr. Brian Higgison, Inspector, Health and Safety Authority

**Electricity**
Mr. Kieran Sludds, Inspector, Health and Safety Authority

**Asbestos**
Ms. Geraldine Mattimoe, Inspector, Health and Safety Authority

**Latex**
Dr Blanaid Hayes, Occupational Physician, Beaumont Hospital

**Stress**
Ms. Patricia Murray, Psychologist, Health and Safety Authority

**Sharps Exposure**
Sr. Joan Mc Namara, St James Hospital, James Street

**Fire Safety**
Nicholas Keogh, Technical Services, Midland Health Board

**Non-Consultant Doctors Working Hours**
Ms. Moira Mallon, Research Policy Officer, Irish Medical Organisation

**Minimal Patient Handling**
Ms. Lorraine Rafter, Health and Safety Co-ordinator, Eastern Health Shared Services, Dr Steeven’s Hospital
Non-exhaustive list of health sector premises and employments

- hospitals
- nursing homes
- community care centres
- day care centres
- day hospitals
- residential care centres
- general practitioners surgeries
- dental surgeries
- home visitation workers
Appendix 2

Extracts from the Safety, Health and Welfare at Work Act, 1989

2.1 SECTION 6 - GENERAL DUTIES OF EMPLOYERS TO THEIR EMPLOYEES

6.— (1) It shall be the duty of every employer to ensure, so far as is reasonably practicable, the safety, health and welfare at work of all his employees.

(2) Without prejudice to the generality of an employer’s duty under subsection (1), the matters to which that duty extends include in particular—

(a) as regards any place of work under the employer’s control, the design, the provision and the maintenance of it in a condition that is, so far as is reasonably practicable, safe and without risk to health;

(b) so far as is reasonably practicable, as regards any place of work under the employer’s control, the design, the provision and the maintenance of safe means of access to and egress from it;

(c) the design, the provision and the maintenance of plant and machinery that are, so far as is reasonably practicable, safe and without risk to health;

(d) the provision of systems of work that are planned, organised, performed and maintained so as to be, so far as is reasonably practicable, safe and without risk to health;

(e) the provision of such information, instruction, training and supervision as is necessary to ensure, so far as is reasonably practicable, the safety and health at work of his employees;

(f) in circumstances in which it is not reasonably practicable for an employer to control or eliminate hazards in a place of work under his control, or in such circumstances as may be prescribed, the provision and maintenance of such suitable protective clothing or equipment, as appropriate, that are necessary to ensure the safety and health at work of his employees;

(g) the preparation and revision as necessary of adequate plans to be followed in emergencies;

(h) to ensure, so far as is reasonably practicable, safety and the prevention of risk to health at work in connection with the use of any article or substance;

(i) the provision and the maintenance of facilities and arrangements for the welfare of his employees at work; and

(j) the obtaining, where necessary, of the services of a competent person (whether under a contract of employment or otherwise) for the purpose of ensuring, so far as is reasonably practicable, the safety and health at work of his employees.

2.2 SECTION 9 - GENERAL DUTIES OF EMPLOYEES

9.— (1) It shall be the duty of every employee while at work—

(a) to take reasonable care for his own safety, health and welfare and that of any other person who may be affected by his acts or omissions while at work;

(b) to co-operate with his employer and any other person to such extent as will enable his employer or the other person to comply with any of the relevant statutory provisions;

(c) to use in such manner so as to provide the protection intended, any suitable appliance, protective clothing, convenience, equipment or other means or thing provided (whether for his use alone or for use by him in common with others) for securing his safety, health or welfare while at work; and

(d) to report to his employer or his immediate supervisor, without unreasonable delay, any
defects in plant, equipment, place of work or system of work, which might endanger safety, health or welfare, of which he becomes aware.

(2) No person shall intentionally or recklessly interfere with or misuse any appliance, protective clothing, convenience, equipment or other means or thing provided in pursuance of any of the relevant statutory provisions or otherwise, for securing the safety, health or welfare of persons rising out of work activities.

2.3 SECTION 13 CONSULTATION AT PLACE OF WORK AND SAFETY REPRESENTATIVES

13. — (2) Employees shall have the right to make representations to and consult their employer on matters of safety, health and welfare in their place of work.

(3) Without prejudice to the generality of subsections (1) and (2), employees may, from time to time, select and appoint from amongst their number at their place of work a representative (in this Act referred to as “the safety representative”) to represent them in consultations pursuant to this section with their employer.

(4) A safety representative shall have the right to such information from his employer as is necessary to ensure, so far as is reasonably practicable, the safety and health of employees at the place of work.

(5) It shall be the duty of every employer to take such steps as are practicable to inform a safety representative when an inspector enters a place of work for the purpose of making a tour of inspection.

(6) A safety representative may—

(a) make representations to an employer on any aspects of safety, health and welfare at the place of work;

(b) investigate accidents and dangerous occurrences provided that he shall not interfere with or obstruct the performance of any statutory obligation required to be performed by any person under any of the relevant statutory provisions;

(c) make oral or written representations to inspectors on matters of safety, health and welfare at work;

(d) receive advice and information from inspectors on matters of safety, health and welfare at work;

(e) subject to prior notice to the employer and to agreement between the safety representative and the employer as to frequency, carry out inspections and in reaching such agreement, which shall not be unreasonably withheld by the employer, the parties shall consider the nature and extent of the hazards in the place of work in determining the frequency of inspections to be carried out by the safety representative at the place of work concerned;

(f) subject to prior notice to the employer, in circumstances in which it is reasonable to assume that risk of personal injury exists, to investigate potential hazards and complaints made by any employee whom he represents relating to that employee’s safety, health and welfare at the place of work; and

(g) on a request being made in that behalf by him, accompany an inspector on any tour of inspection other than a tour of inspection made by the inspector for the purpose of investigating an accident.

(7) An employer shall consider and, if necessary, act upon any representations made to him by a safety representative on any matter affecting the safety, health and welfare at work of any employee whom he represents.

(8) (a) For the purpose of acquiring the knowledge necessary for the discharge of their functions under subsection (1) (a) of this section and to enable them to discharge those functions, an employer shall afford employees who may be involved in arrangements under subsection (1) (a) or under subsection (2) such time off from their duties as may be reasonable having regard to all the circumstances without loss of remuneration;
(b) an employer shall afford a safety representative such time off from his duties as may be reasonable having regard to all the circumstances without loss of remuneration, to enable him to —

(i) acquire the knowledge necessary to discharge his functions as a safety representative, and

(ii) discharge his functions as a safety representative.

(9) Arising from the discharge of his functions under this section, a safety representative shall not be placed at any disadvantage in relation to his employment.
Appendix 3

Contractors in the Health Care Sector

3.1 INTRODUCTION

This guidance will help you if you use contractors. The aim is to protect the health and safety of staff, patients, contractors and anyone else who may be affected when contractors are employed in health services buildings.

Many functions, which may in the past have been centrally managed and organised, are now being put out to tender. Examples range from small-scale repair work, door fittings, glazing, to construction and redecoration. Key functions such as catering, floor cleaning or landscape management may now also be contracted out.

3.2 DUTIES AND RESPONSIBILITIES

The Safety, Health and Welfare at Work Act, 1989 places duties upon the employer and the contractor regarding the health and safety of employees and others who may be affected by the work, including patients. In the case of certain construction, refurbishment, maintenance, repair, and redecoration works, the Safety, Health and Welfare at Work (Construction) Regulations, 1995, will apply. These Regulations place duties upon clients, those who place the contract, planning supervisors, designers and contractors to plan, co-ordinate and manage health and safety throughout all stages of a construction project.

The contractor should be provided with safety file information before s/he starts since it will advise and influence the safety plan for the work. On completion the contractor will have to provide an updated safety file.

3.3 APPOINTING A CONTRACTOR: GUIDELINES

1. Is there a section on health and safety in the standard qualification and/or tendering specification of the organisation?

2. Does this include questions relating to accident records, enforcement orders and does it require tenderers to submit a copy of their safety statement? Who evaluates the health and safety responses?

3. To what extent does the health and safety evaluation influence contractor selection?

4. Is there a meeting of short-listed tenderers at which health and safety issues are covered?

5. Does the organisation publish a Contractors’ Handbook setting out the organisation’s rules and requirements?

6. It is advisable that the organisation should not loan tools to contractors.

7. Are safety officers and maintenance staff involved:
   (a) In contractor selection?
   (b) In the preliminary meeting with the successful contractor?
   (c) During the tenure of the contract?
   (d) At the handover induction/testing/commissioning?

8. Does the organisation require that the contractor communicate all accidents, dangerous occurrences and near misses that occur on the premises? Check the contractor's safety record.

9. Check the contractor's insurance record and get the contractor's written permission to authorise insurers to release information.
10. Check the contractor’s investment in health and safety training and education.
11. Assess the contractor’s safety statement with reference to the work carried out.
12. Is the contractor familiar with similar projects in the client’s sector?
13. Can the contractor ensure that sub-contractors are aware of safety?
14. Check how the contractor will integrate their safety arrangements with yours.
15. What safety supervision arrangements will the contractor have in place?
16. Seek and check safety references.

3.4 PLANNING AND ORGANISING THE WORK
Establish clear parameters for everyone involved, including sub-contractors where appropriate. Take into account your risk assessment together with that of your contractors. There may be a need for detailed method statements and ‘permit-to-work’ systems for complicated or potentially hazardous procedures.

3.5 CONTROLLING THE WORK
It is important to appoint a contact person(s) who will liaise with the contractor to establish day-to-day control and monitor health and safety standards. Overall performance should be reviewed regularly and joint arrangements should be in place for the reporting and investigation of any accidents or incidents. Effective lines of communications between the client and those responsible for the contracted work should be clearly established and maintained. There should be no doubt as to how health and safety will be managed. Controls should extend to sub-contractors, including those who may be introduced at a later stage, or whose work on-site may be intermittent.

3.6 CONTRACT COMPLETION
In keeping with the whole contracting procedure, it is important to ensure that health and safety matters receive due weighting and are properly verified on completion. At the final meeting, any relevant documentation should be obtained (e.g. Electrical Test Certificates). Check that all equipment and material has been removed and that working areas have been left in safe condition. Any damage to fixtures, fittings, floor surfaces etc. should be made good. If equipment has been installed, safe operating procedures, maintenance routines, etc. must be clearly identified and understood involving, where appropriate, the hand over of necessary documentation.

The results of your own and your contractors’ health and safety monitoring should be exchanged. This information will be helpful if further work is to be considered. If the work was a ‘one-off’ repair there may still be lessons to be learnt as to how contracts should be managed in the future.
Appendix 4

Reference Factors for the Manual Handling of Loads

EIGHTH SCHEDULE TO THE SAFETY, HEALTH AND WELFARE AT WORK (GENERAL APPLICATION) REGULATIONS, 1993

4.1 Characteristics of the load
The manual handling of a load may present a risk particularly of back injury if it is:
- too heavy or too large,
- unwieldy or difficult to grasp,
- unstable or has contents likely to shift,
- positioned in a manner requiring it to be held or manipulated at a distance from the trunk, or with a bending or twisting of the trunk, or
- likely, because of its contours or consistency (or both), to result in injury to employees, particularly in the event of a collision.

4.2 Physical effort required
A physical effort may present a risk particularly of back injury if it is:
- too strenuous,
- only achieved by a twisting movement of the trunk,
- likely to result in a sudden movement of the load, or
- made with the body in an unstable posture.

4.3 Characteristics of the working environment
The characteristics of the work environment may increase a risk particularly of back injury if:
- there is not enough room, in particular vertically, to carry out the activity,
- the floor is uneven, thus presenting tripping hazards, or is slippery in relation to the employee's footwear,
- the place of work or the working environment prevents the handling of loads at a safe height or with good posture by the employee,
- there are variations in the level of the floor or the working surface, requiring the load to be manipulated on different levels,
- the floor or foot rest is unstable,
- the temperature, humidity or ventilation is unsuitable.

4.4 Requirements of the activity
The activity may present a risk particularly of back injury if it entails one or more of the following requirements:
- over-frequent or over prolonged physical effort involving in particular the spine,
- an insufficient bodily rest or recovery period,
- excessive lifting, lowering or carrying distances, or
- a rate of work imposed by a process which cannot be altered by the employee.
Biological Factors

Part 1

5.1 BLOOD BORNE VIRUSES

5.1.1 Standard Precautions Policy

A Standard Precautions Policy is a written policy designed to eliminate or minimise worker exposure to blood borne infections. Standard precautions are infection control principles that treat all human blood and other potentially infectious materials as infectious. There are two main categories of Standard Precautions as follows:

▲ Engineering controls and work practices to eliminate or minimise worker exposure
▲ Appropriate Personal Protective Equipment (PPE) if adjusted working practices and engineering controls do not guarantee protection.

5.1.2 Elements of a Standard Precautions Policy include:-

▲ The prevention of puncture wounds, cuts and abrasions in the presence of blood and other body fluids
▲ A suitable sharps injury prevention policy (see Part 2 of this Appendix)
▲ Protection of all breaks in exposed skin by means of waterproof dressings and/or gloves
▲ In procedures where splashing with blood or body fluids is a possibility (e.g. certain types of surgery or work in post mortem rooms), the eyes and mouth will need protection by means of a full-face visor or goggles or safety spectacles combined with a mask
▲ Where splashing of clothing is a possibility avoid contamination of the person or clothing by means of waterproof protective clothing, typically plastic aprons
▲ Rubber boots or plastic disposable overshoes should be worn when the floor or ground is likely to be contaminated
▲ Surface contamination by blood and body fluids should be avoided
▲ Where contamination occurs appropriate decontamination procedures should be specified
▲ Disposal procedures for the safe disposal of contaminated waste should be spelled out
▲ Training should be provided for all staff likely to be exposed to blood fluids.

Part 2

5.2 SHARPS INJURY PREVENTION

A sharps injury (most frequently a needlestick injury) is one in which the skin has been punctured by a sharp which has been used on a patient or has been in contact with a patient’s blood or body fluids. A sharps injury could also be caused by a scalpel or a fragment of broken glass in laboratory work or in the transport of specimens. Also included in this category are splashes of blood or body fluids onto broken skin, eyes or other mucous membrane. A human bite, which breaks the skin, is also a sharps injury, as is a puncture by a spicule of bone in orthopaedic surgery.
A sharps policy must include a risk assessment. This risk assessment must be in writing as required by Regulation 10 of the Safety, Health and Welfare at Work (General Application) Regulations, 1993.

The prevention of sharps may be achieved by using:
- needle-less connections
- safe intravenous catheters
- plastic microbave capillary tubes
- plastic vacuum blood collection tubes
- blunt suture needles
- automatic retracting finger/heelstick devices
- blood drawing devices with integrated safety features
- injection equipment with safety features

The hollow bore needle presents the greatest risk.

Education, training and behaviour modification are essential elements of a sharps injury prevention policy. Education and training on infection control and the safe use and disposal of sharps must be made available for all heath care workers who are exposed to blood, blood products and body fluids.

**Part 3**

5.3 POST EXPOSURE INCIDENT PROCEDURE

(The following guideline is reproduced by kind permission of the Special Interest Group of Occupational Physicians in the health care sector of the Faculty of Occupational Medicine of the Royal College of Physicians of Ireland)

Needlestick Injury, Blood and Body Fluid Exposure Incidents: Guidelines on Policy Formation

Special Interest Group of the Faculty of Occupational Medicine, Royal College of Physicians of Ireland

A significant exposure occurs in the following circumstances:

(i) A cut or skin penetration by a sharp which has been used on a patient or been in contact with a patients blood, blood components or other body fluids.
(ii) Aspiration or ingestion of blood, blood components or other body fluids.
(iii) Splashing of blood, blood components or other body fluid into the face, particularly the lips, mouth or eyes.
(iv) Extensive splashing of blood, blood components or other body fluids over large areas of unprotected body surface or clothing, or on a skin surface that is broken.
(v) Bites and scratches that break the skin or mucous membranes.

The policy should refer to:
- prevention of these incidents
- universal precautions
- first aid
- documentation of the injury
- treatment
- follow up
Specific guidelines

1.0 The Occupational Health Department (OHD), should be involved in the development, implementation and review of all policies and procedures concerned with the management of needle-stick and blood and body fluid exposure incidents.

2.0 A separate and distinct needle-stick injury/exposure report form should be used to ensure adequate reporting and follow up on these types of incidents. All incidents must be reported. After completion, this form should be sent to and retained in the OHD.

3.0 Management of these injuries should include the following:
   1) First aid
   2) Blood testing of the source patient
   3) Blood testing of the staff member
   4) Follow up with further blood testing and counselling from the OHD.

   It is acknowledged that testing the source patient raises issues regarding consent. Specific arrangements for implementing this aspect of the guidelines need to be addressed locally. Follow up testing of the staff member may be required up to 1 year after exposure.

4.0 Every exposure incident should be reported and investigated and appropriate risk control measures put in place.

5.0 Appropriate information, training and supervision must be given to staff at risk to ensure that they understand the correct procedure to be followed in the event of an exposure. This may be achieved through induction training or at pre-employment health assessment, depending on local arrangements.

6.0 The Special Interest Group recommends that a single exposure incident reporting form should be developed and used throughout the country to facilitate comparison of incident statistics. Statistics relating to exposure incidents should be reported periodically to the hospital’s Infection Control Committee.

7.0 All policies relating to these types of incidents should emphasise that prevention is paramount.

8.0 Appropriate and multiple disposal bins must be provided and must not be overfilled. These should be replaced on a regular basis and those members of staff required to handle these bins, should receive adequate information, training and vaccination. Needles must not be resheathed.

9.0 Blood Tests:

9.1. (Written) informed consent should be obtained before performing any blood tests on source patient or injured person. This consent should be retained in the relevant file. No blood tests should be performed without informed consent as this may be construed as an assault. It is suggested that a designated person be appointed to approach the source patient, before testing is carried out. A suitable person might be a member of the infection control team. Junior doctors will not always feel competent in this area and involving social workers can be seen to bring unnecessary formality to the exercise.

9.2. Reference samples should be taken from the source patient and injured person for storage and for testing.

9.3. The Special Interest Group recommends that in the event of blood or body fluid exposure or needle-stick injury, consideration should be given to testing the source patient’s blood for blood borne viruses (hepatitis B, hepatitis C, HIV) and a sample kept for storage for further analysis if required.

9.4. Results of all blood tests should be sent to the OHD for recording.
9.5. The importance of adequate records cannot be over emphasized. In addition, all records may be important at a later stage in the event of civil proceedings being initiated.

9.6. Counseling and follow up is essential and should be provided by an Occupational Health Department with access to a Consultant Occupational Physician who has expertise in this area. All counselling provided should be documented in the record.

9.7. Post exposure prophylaxis should be instituted as soon as possible in accordance with current accepted practice. Those responsible for organising and providing prophylaxis should be aware that the recommendations in this area are regularly updated. They must be aware of the most up to date guidelines. At the time of release of the Special Interest Group Guidelines on Policy Formation the reference is:

   Guidelines on Post Exposure Prophylaxis for Health Care Workers Occupationally Exposed to HIV, published in June 1997 by the UK Health Departments. This is available from the Stationery Office Bookshops, UK.

Part 4

5.4 PRINCIPLES OF MRSA CONTROL FOR THE OCCUPATIONAL HEALTH PROTECTION OF HEALTH CARE STAFF

Suitable training should be put in place for all staff at risk, which should include:-

- Information on MRSA
- Correct hygiene procedures
- Consequences of MRSA carriage
- Infection control
- Measures to prevent carriage

In the health care setting staff should:

- Adhere to good hand washing procedures. It is the most effective method of preventing the spread of MRSA
- Cover infected wounds with appropriate dressings
- Cover infected or exfoliating lesions
- Staff with exfoliative skin conditions should seek advice before caring for MRSA positive patients.
- Seek advice from the infection control department and/or the health and safety department if concerned (i.e. if they feel that their immune system is in any way compromised)

Part 5

5.5 SAFE TRANSPORT OF INFECTIOUS SUBSTANCES AND DIAGNOSTIC SAMPLES

The transport of dangerous goods is controlled internationally by ADR Regulations (road), RID Regulations (rail), IMDG Code (marine), and IATA Regulations and ICOA Technical Instruction (air). Ireland has yet to sign the ADR. Existing national legislation uses the ADR as the basis for the legislation. Recent EU Directives require national legislation to incorporate the full provisions with some derogation’s of the ARD into legislation. New Regulations are due to come into effect in Ireland in 2001.

There is also a duty of care under the Safety, Health and Welfare at Work Act 1989, the General Application Regulations 1993, the Biological Agents Regulations 1994 and 1998 and the Dangerous Substances Act,
1972, and subsequent Regulations, on those dispatching dangerous goods to ensure that those samples do not pose a threat to any persons coming in contact with them.

The packaging requirements under the ADR are the basis for existing and future legislation relating to the packaging of infectious substances and diagnostic specimens in this country.

**Dangerous Goods** are articles or substances, which are capable of posing a significant risk to health and safety or to property, and which meet the criteria of one or more of nine UN hazards classes.

**Class 6.2 Infectious Substances;**

These include substances, which are infectious to humans and/or animals as well as genetically modified organisms, biological products and diagnostic specimens.

Diagnostic specimens are divided into **Groups a,b,c,**

- **Group a:** those known or reasonably expected to contain pathogens. Specimens transported for the purpose of initial or confirmatory tests fall into this group.
- **Group b:** those where a low probability exists that pathogens are present.
- **Group c:** those known not to contain pathogens.

Diagnostic specimens of **group b** must be packed in good quality packaging, strong enough to withstand the shocks and loadings normally encountered during transport.

Diagnostic specimens of **group a** have stricter provisions within the ADR.

**Packing Instructions**

Packaging must consist of:

- A watertight primary inner receptacle and watertight secondary packaging
- Absorbent material which must be placed between the primary receptacle and secondary packaging. This must be sufficient to absorb the entire contents of all primary receptacles.
- Outer packaging of sufficient strength and meeting specific design tests and bearing specific markings

In addition, in the case of all packages containing infectious substances:

- An itemised list of contents must be enclosed between the secondary packaging and the outer packaging
- The name and telephone number of a person responsible for the shipment must be marked on the outside of the package
- A shipper's declaration must be completed if this is being sent overseas

**Training**

Under the Safety, Health and Welfare at Work Act 1989 and Biological Agents Regulations 1994 and 1998, training must be provided to those dealing with infectious substances and diagnostic samples. They must receive information and instruction on the safe handling of infectious material and be adequately supervised. In addition, training must be provided to those involved in the transport of dangerous goods in compliance with the Regulations.

- Training is prescribed
- Training must be certified
- Records of training must be kept
- Retraining must be provided every two years

Under the European Communities (Safety Advisers) Regulations, 2001, those responsible for the transport, packaging and labelling of dangerous goods must have a qualified safety adviser.
## Appendix 6

### Chemical Safety

#### Part 1

6.1 **LIST OF CHEMICALS USED IN HOSPITALS REPORTED BY NIOSH (AMERICAN NATIONAL INSTITUTE OF OCCUPATIONAL SAFETY AND HEALTH) IN 1984** - (This is not an exhaustive list.)

<table>
<thead>
<tr>
<th>Chemical</th>
<th>Chemical</th>
<th>Chemical</th>
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<tbody>
<tr>
<td>Acetic acid</td>
<td>Coumarin</td>
<td>Hexamethylenetetramine</td>
</tr>
<tr>
<td>Acetic anhydride</td>
<td>Cyclohexanol</td>
<td>Isopropyl myristate</td>
</tr>
<tr>
<td>Aluminum hydroxide</td>
<td>Cyclohexanone</td>
<td>Isopropyl acetate</td>
</tr>
<tr>
<td>Acetone</td>
<td>Dichloroethane, 1,2-</td>
<td>Isopropyl alcohol</td>
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<tr>
<td>Acrylamide</td>
<td>Dichloromethane</td>
<td>Isopropyl lauryl sulfate</td>
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<td>Ammonium chloride</td>
<td>Diethylamine</td>
<td>Lactic acid</td>
</tr>
<tr>
<td>Ammonium hydroxide</td>
<td>Dimethoxane</td>
<td>Lactose</td>
</tr>
<tr>
<td>Ammonium lauryl sulfate</td>
<td>Diethylene glycol</td>
<td>Lead acetate</td>
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<td>Dinitrophenylhydrazine, 2,4-Dioxane, 1,4-</td>
<td>Leucine</td>
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<tr>
<td>Acrylonitrile</td>
<td>Diphenylamine</td>
<td>Lithium</td>
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<td>Dipropyleneglycol, monoethyl ether</td>
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<td>Ethanol, 2-butoxy</td>
<td>Magnesium chloride</td>
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<td>Ethyl alcohol</td>
<td>Maleic acid</td>
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<td>Ethyl ether</td>
<td>Maleic anhydride</td>
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<td>Ethanol, 2-(2-ethoxyethoxy)-acetate Ethylene glycol</td>
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<td>Ethoxethanol, 2-</td>
<td>Magnesium chloride</td>
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<td>Benzidine</td>
<td>Ethylenediaminetetraacetic acid</td>
<td>Maleic acid</td>
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<tr>
<td>Benzthiazolethiol, 2-</td>
<td>Ethylenediaminetetraacetic acid, sodium salt</td>
<td>Manganese chloride</td>
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<td>Benzolic acid</td>
<td>Ethylenediaminetetraacetic acid, tetrasodium salt</td>
<td>Methyl acrylate</td>
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<td>Ferrous sulfate</td>
<td>Methyl salicylate</td>
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<td>Butanol</td>
<td>Formaldehyde</td>
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<tr>
<td>Chlorof orm</td>
<td>Glycolic acid</td>
<td>Methoxyflurane</td>
</tr>
<tr>
<td>Cholesterol</td>
<td>Hydrazine sulfate</td>
<td>Methylparaben</td>
</tr>
<tr>
<td>Chromium trioxide</td>
<td>Hydroxylamine</td>
<td>Methyl1-2-pentanone, 4-Methylparaben</td>
</tr>
<tr>
<td>Citric acid</td>
<td></td>
<td>Methyl1-2-pentanone, 2-Methoxyethanol, 2-</td>
</tr>
<tr>
<td>Cobaltous acetate</td>
<td></td>
<td>Methyl1-2-pentanone, 4-Naphthol, alpha-</td>
</tr>
<tr>
<td>Copper (II) sulfate (1:1)</td>
<td></td>
<td>Naphthylamine, alpha-</td>
</tr>
<tr>
<td>Clorpromazine hydrochloride</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Nitrilotriethanol, 2,2',2"-
Nitrobenzene
Nonylphenol
Nitrilotri-2-propanol, 1,1',1"-
Nitrilotriethanol, 2,2"-
Nitrofurazone
Oxalic acid
Pentanediol, 1,5-
Pentyl alcohol
Pentylphenol, para-tert
Phenol, 4-chloro-2-cyclopentyl-
Phosphorothioic acid, O,O-
diethyl O-(2-isopropyl-6-methyl-
4-pyrimidinyl) ester
Piperidine
Phthalic acid, dibutyl ester
Potassium chloride
Potassium hydroxide
Propanediol, 1,2-
Propylene glycol monomethyl ether
Propylene oxide
Pentanediol, 1,4-
Phenobarbital
Phenol
Phosphoric acid
Potassium permanganate
Propylene glycol
Pyridine
Phenylmercuric acetate
Phosphoric acid
Phosphoric acid 2,2-dichloro-
vinyl dimethyl ester
Pyrogallic acid
Pentanediol, 1,5-
Phosphoric acid
Phthalic acid, dibutyl ester
Pentanediol, 1,5-
Phosphoric acid
Potassium hydroxide
Potassium permanganate
Propylene glycol
Potassium permanganate
Propylene glycol monomethyl ether
Potassium cyanide
Propional, 1-
Propionic acid
Pyridine
Quartz
Resorcinol
Salicylic acid
Silver nitrate
Sodium acetate
Sodium azide
Sodium benzoate
Sodium carbonate
Sodium chloride
Sodium
dodecylbenzenesulfonate
Sodium hypochlorite
Sodium iodide
Sodium lauryl sulfate
Sodium metasilicate
Sodium nitrate
Sodium phosphate, dibasic
Sodium salicylate
Sorbic acid
Stereic acid
Styrene
Succinic acid
Sulfanilamide
Sulfur dioxide
Sulfuric acid
Sulfuric Tetrachloroethylene
Tetrachloroethylene
Thiopentyl sodium
Thioacetamide
Thiosemicarbazide
Thiourea
Toluene
Toluidine, ortho-
Trichloroacetic acid
Trichloroethane, 1,1,1-
Triazine-2,4,6, (1H, 3H, 5H)-trione, 1,3-dichloro-, potassium salt, S-
Trichloroethylene
Tungstic acid
Urea
Xylene
Zinc chloride
Zinc oxide
Zinc sulfate (1:1)

Part 2

6.2 GLUTARALDEHYDE

Glutaraldehyde is classed as a skin and respiratory sensitiser. Sensitising substances are capable of eliciting a reaction of hypersensitisation such that, on further exposure to the substance, characteristic adverse effects are produced. Glutaraldehyde currently has an occupational exposure limit (OEL) (15 minute period) of 0.1 ppm or 0.35mg/m3. (1999 Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations, 1994).

The hierarchy of control measures for chemicals in the workplace pertains, i.e:-

▲ elimination or substitution
▲ engineering controls
▲ safe system of work
▲ personal protective equipment
Much work is currently being done on alternatives to glutaraldehyde. As yet there is none that does the complete job as well as glutaraldehyde without health effects. But some of the alternatives can and are being used for some of the work, thereby reducing potential exposure. The information contained in the table is accurate at time of publication but may change as research and investigation in this area is ongoing.

<table>
<thead>
<tr>
<th>Product</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glutaraldehyde</td>
<td>Cheap, good disinfectant, easy to use, compatible with all scopes, not affected by organic matter</td>
<td>Severe health effects</td>
</tr>
<tr>
<td>Peracetic acid e.g. Nucidex, Steri</td>
<td>Shorter sterilisation time, few health effects (irritation only) but under review, active in the presence of organic matter</td>
<td>Damaging to some scopes, more expensive, unpleasant smell, unstable Eye irritant</td>
</tr>
<tr>
<td>Steerilox (super oxidised water)</td>
<td>Generated at the point of use, good disinfectant, non-toxic, low irritancy, quick acting</td>
<td>Unstable – has to be used within 24 hrs, inactivated by organic matter; damaging to some scopes, expensive – initial outlay to purchase/rent generator.</td>
</tr>
<tr>
<td>Chlorine Edioxide e.g. tristel endoscopes, less irritating</td>
<td>Suitable for rigid and flexible</td>
<td>Not compatible with all scopes, more expensive, less stable, inactivated by organic matter</td>
</tr>
</tbody>
</table>

**EXPOSURE CONTROL**

Where glutaraldehyde cannot be eliminated or substituted the control measures may include the following, as deemed appropriate by the risk assessment:

1. An enclosed automatic system for disinfecting
2. Safe systems of work for cleaning, maintenance of enclosed system and automatic x-ray processors
3. Systems for ensuring good general ventilation in the area around automatic machines
4. Mechanical exhaust ventilation equipment is maintained at regular intervals
5. Precautions where short-term peaks of exposure may occur
6. Procedures in the event of a spillage
7. Training, information and instruction for staff should ensure that employees are aware of:
   - the risks of exposure to glutaraldehyde
   - safe working methods
   - arrangements for health checks/surveillance if necessary
   - how to recognise the early symptoms and the action needed
8. Air sampling – e.g. high performance liquid chromatography
9. Provision of adequate and appropriate PPE (e.g. a traditional surgical mask offers no protection against glutaraldehyde vapours – whereas a charcoal mask does)
10. Validation mechanism of control systems should be implemented
6.3 FORMALDEHYDE

Formaldehyde is classified as toxic, corrosive and as a skin sensitiser. It is also classified as a category 3 carcinogen, which means that there is only limited evidence for carcinogenic effects. Formaldehyde currently has an occupational exposure limit (OEL) (15 minute period) of 2ppm or 2.5mg/m3. The OEL for an 8 hour reference period is 2ppm or 2.5mg/m3 – (1999 Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations, 1994).

**Exposure control:**

Identify the hazard

Assess the risk – identify areas where formaldehyde is used: identify all employees that may be exposed: Assess level of formaldehyde exposure.

Eliminate use where possible

Substitute if possible – substitutes must be used with caution

Engineering controls – Local Exhaust Ventilation (LEV) should be installed at work stations using formalin or specimens preserved in formalin. An example of LEV for an embalming room is a pair of 6-ft-long slot hoods placed on each side of the embalming table. These slot hoods capture formaldehyde by means of an exhaust fan placed outside the embalming room. The exhaust fan maintains an optimum airflow

Work practices and procedures – Organise work to ensure minimum exposure to as few employees as possible: rotate staff, buy small quantities of formaldehyde in plastic containers for ease of handling and safety, containers must be properly labeled.

Training and education of staff – Ensure they are aware of the hazards, the necessary procedures to protect them, the emergency procedure in case of an incident, and are aware of the symptoms of possible exposure and what to do. Material Safety Data Sheets (MSDS) must be made available to staff.

Protective equipment – when engineering and work practice controls are ineffective in controlling exposure to formaldehyde, suitable protective equipment must be used.

Emergency facilities – appropriate emergency facilities should be provided, i.e. eye wash station, emergency shower

Occupational Hygiene – monitor to ensure the OEL is not being exceeded and to establish air concentration

Occupational Health Surveillance – to monitor any adverse exposure effects

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6.4 MEDICAL GAS PIPELINE SYSTEMS

The primary objective of Medical Gas Pipeline System (MGPS) is to ensure that safe, efficient and reliable supplies of medical gases are available for patients.

1. Management of MGPS

Caring for patients, staff, visitors and other personnel within Health Service’s premises and minimising health and safety risks is part of a Health Service’s normal business. The safe management of Medical Gas
Pipeline Systems falls within this category and requires a high level of management commitment, professional competence and adequate resources.

All Health Services using MGPS should have in place an Operational Policy to provide a framework to ensure that Medical Gas Pipeline Systems are operated and maintained in a safe manner, and in compliance with statutory requirements and codes of practice.

Under the Safety, Health and Welfare at Work Act, 1989, management should ensure, so far as is reasonably practicable, the health and safety of employers, patients, visitors and other personnel. The procedures put in place should be designed to minimise or eliminate risk.

Health Services employees and contractors have an obligation under the 1989 Act to take reasonable care relating to health and safety of themselves and any other persons who may be affected by their acts or omissions at work.

Management should designate an Authorised Person for MGPS and install a Permit to Work system. The Authorised Person would be responsible for the day to day management of the Medical Gas Pipeline System. Under normal conditions only the Authorised Person has the authority to take a system or part of a system into or out of use.

To implement the management responsibility, it is advisable that all work carried out on Medical Gas Pipeline Systems be subject to a Permit to Work.

Where programmed work will affect any service within a Department, the Authorised Person will be required to inform the Medical or Nursing Officer in charge of the extent and duration of any disruption to the service and the procedures to be put in place to provide continuity of service during the period of disruption.

The work should only proceed following the signed approval of the Medical or Nursing Officer in charge. The responsibility for the work and the reinstatement of the service remains with the Authorised Person.

The Health Services Operational Policy document should list all designated Medical or Nursing Officers, with alternative cover in the event of absence, for each individual ward or department. The supply requirements should be discussed with the Authorised Person (MGPS) before any medical gas equipment is purchased.

2. Cylinder Handling
All personnel handling gas cylinders should be trained in manual handling techniques and have adequate knowledge of the properties of the gas, precautions to be taken and action in the event of an emergency.

1. Read the label
2. Remember these are high pressure cylinders
3. Close cylinder valves after use, and when empty
4. Only move cylinders with appropriately sized trolley
5. Secure cylinders at all times
6. Never use sealing compounds to cure leaks at regulators or cylinders
7. Store E size or smaller cylinders in purpose made racks
8. Store F size of greater cylinders vertically and fasten securely to cylinder support
9. Cylinders must be handled with care and not knocked violently or allowed to fall
3. Emergency Action
The action to be taken in the event of a serious gas leak or fire should form part of the Health Services MGPS policy document.

4. Serious Gas Leak
- Organise portable cylinders for critical patients
- Close medical gas zone valve by breaking glass and turning the valve 90 degrees, thereby shutting off the supply
- Notify the Authorised Person (MGPS)

5. Fire [Refer to your Health Services Fire Policy]
- Evacuate patients to a safe area, if required
- Organise portable cylinders for critical patients
- Close zone valve if safe to do so
- Notify Fire Officer and Authorised Person (MGPS)

6. Fire Precaution
Fire can occur when the following components come together: -
- Flammable Materials
- Oxygen or Nitrous Oxide Enriched Atmosphere
- Source of Ignition

Flammable materials should not be present in cylinder stores, manifold rooms or liquid oxygen compounds. However, these are impossible to isolate at the patient, therefore extreme care must be taken.

Examples of combustible materials which can be found near patients include hair oils, nail varnish removers, skin lotions, cosmetic tissues, skin preparation solutions, clothing, bed linen, alcohol and certain disinfectant.

7. Definition for Authorised Person (MGPS)
A person who has sufficient technical knowledge, training and experience in order to understand fully the dangers involved and who is appointed in writing by the executive manager on the recommendation of a chartered engineer with specialist knowledge of Medical Gas Pipeline Systems. The certificate of appointment should state the class of work which the person is authorised to initiate and the extent of his/her authority to issue and cancel permits to work.

The Authorised Person (MGPS) should have read, have understood and be able to apply the guidance in Health Technical Memorandum 2022 Medical Gas Pipeline Systems, especially in relation to validation and verification, and should also be completely familiar with the medical gas pipe routes, their means of isolation and the central plant. S/he should ensure that the work described in any permit-to-work is carried out to the necessary standards.

REFERENCES
Further information is also available in the UK Health Technical Memorandum 2022 (Medical Gas Pipeline Systems).
6.5 ANAESTHETIC GASES

1. Introduction
The anaesthetic gas and vapours that leak out and into the surrounding room during medical procedures are considered waste anesthetic gases and mainly occur in theatre, recovery rooms and dental facilities. Inhaled anaesthetic agents include two different classes of chemicals:

- Nitrous oxide with an Occupational Exposure limit (OEL) over eight hours of 100 parts per million (ppm)
- Halogenated agents (vapours). Halogenated agents currently in use include halothane (8 hr OEL = 10ppm), enflurane (8 hr OEL = 50ppm), isoflurane (8 hr OEL = 50ppm), chloroform (8 hr OEL = 2ppm), trichloroethylene (8hr OEL = 100ppm & 15minOEL = 150ppm)

OELs are from the 1999 Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations 1994.

2. Exposure Effects
Studies of the effects of these agents in the health-care setting have been hampered, due to high job turnover of affected employees. Some potential effects of exposure to waste anesthetic gases are nausea, dizziness, headaches, fatigue, and irritability. Reproductive, cancer, liver and kidney issues are of concern but there is very limited evidence to support this.

Exposure measurements taken in operating theatres during the clinical administration of inhaled anaesthetic, indicate that waste gases can escape into the room air from various components of the anesthesia delivery system. Potential leak sources include tank valves, high and low-pressure machine connections, connections in the breathing circuit, defects in rubber and plastic tubing, hoses, reservoir bags, and ventilator bellows and the Y-connector. In addition, selected anesthesia techniques and improper practices such as leaving gas flow control valves open and vaporizers on after use, spillage of liquid inhaled anaesthetics and poorly fitting face masks or improperly inflated tracheal tube and laryngeal mask airway cuffs also can contribute to the escape of waste anesthetic gases into the theatre atmosphere.

Health-care workers in the recovery room encounter exposure to waste anesthetic gases from the patients. While in the theatre, patients anaesthetised with inhaled anesthetic agents, take-up varying quantities of these agents, depending on the specific agent and its solubility, the duration of anaesthesia, and the physiological make-up of the patient. In recovery, these gases are eliminated by the patient’s respiratory system into the ambient environment. Because recovery nurses must monitor vital functions in close physical proximity to the patient, they can be exposed to measurable concentrations of waste anaesthetic gases. Consequently, air samples obtained within the breathing zone of a nurse providing bedside care are most likely to represent the gas concentrations actually inhaled.

3. Exposure Control

- Proper maintenance of equipment to prevent leaks
- Effective anaesthetic gas scavenging systems that remove excess anaesthetic gas at the point of origin
- Effective general or dilution ventilation
- Good work practices on the part of the health-care workers, including the proper use of controls
- Periodic personal exposure and environmental monitoring to determine the effectiveness of the overall waste anaesthetic gas control program
4. Anaesthesia Machine

An anaesthesia machine is an assembly of various components and devices. The basic two-gas anesthesia machine has more than 700 individual components. It allows the anaesthetist to select and mix measured flows of gases, to vaporize controlled amounts of liquid anesthetic agents, for administration to patients via a breathing circuit. The machine has many connections and potential sites for leaks. Both oxygen and N2O may be supplied from two sources:

- a pipeline supply source (central piping system from bulk storage) and
- a compressed gas cylinder supply source

Because pipeline systems can fail and because the machines may be used in locations where piped gases are not available, anaesthesia machines are fitted with reserve cylinders of oxygen and N2O.

5. Prior Measures

Prior to induction of anaesthesia:

- ensure the machine, its components and accessories are in good working order
- connect the waste gas disposal system
- visually inspect hoses for obstructions or kinks
- test the anaesthesia breathing system to verify that it can maintain positive and constant pressure
- identify and correct leaks prior to use

6. Collection and Disposal of Waste Anaesthetic Gases

The collection and disposal of waste anaesthetic gases is essential for reducing exposure.

- A gas scavenging system traps waste gases at the site of overflow from the breathing circuit and disposes of these gases
- The heating, ventilating and air conditioning (HVAC) system also contributes to the dilution and removal of waste gases. A HVAC system when used in combination with an anaesthetic gas scavenging system should reduce, the waste anaesthetic gases. If excessive concentrations of anaesthetic gases are present, then airflow should be increased in the room to allow for more air mixing and further dilution of the anaesthetic gases
- The exhalation of residual gases by patients in recovery may result in significant levels of waste anaesthetic gases. A non-recirculating ventilation system can also help reduce waste gas levels in this area

7. Work Practices

Work Practices should include:

- Check out procedure on anaesthesia apparatus at beginning of each day
- An abbreviated check out prior to each case
- Ensure face mask is correct size and gives a full seal
- ET tubes etc should be positioned precisely and cuffs inflated adequately where appropriate
- Minimise spills of liquid anaesthetic agent – clean up promptly
- Prior to extubation, one should administer non-anaesthetic gases/agents so that the washed-out anaesthetic gases can be removed by the scavenging system. The amount of time allowed for this should be based on clinical assessment and may vary from patient to patient. When possible, flushing of the breathing system should be achieved by exhausting into the scavenging system
Monitor concentrations of waste gases – this should include personal and area sampling

Ensure effectiveness and preventive maintenance of scavenging and ventilation systems

8. Administrative Practices

- Information and training for employees
- Health surveillance programme for all workers exposed to establish baseline
- Spill/leak procedure in place
- During clean up and containment of spills of liquid anaesthetic agents, personal protective equipment should be used in conjunction with engineering, work practice, and/or administrative controls. Gloves, goggles, face shields, and chemical protective clothing (CPC) are recommended to ensure worker protection. Respirators, where needed, should be selected based on the anticipated contamination level

### Part 6

**6.6 GLOVE ALLERGY**

The reactions to gloves are generally as follows:

<table>
<thead>
<tr>
<th>Type</th>
<th>Signs/symptoms</th>
<th>Cause</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irritant Contact Dermatitis</td>
<td>Scaling, drying, cracking of skin</td>
<td>Irritation by gloves, powder, soaps/detergent, incomplete hand drying</td>
<td>Most common reaction to glove usage</td>
</tr>
<tr>
<td>Allergic Contact Dermatitis, Type IV delayed hypersensitivity, allergic contact sensitivity</td>
<td>Blistering, itching, crusting</td>
<td>Processing chemicals</td>
<td>Appearance like that of poison ivy rash</td>
</tr>
<tr>
<td>Immediate hypersensitivity, IgE/histamine-mediated allergy, Type I hypersensitivity</td>
<td>Local: hives, Systemic: generalised urticaria, rhinitis, wheezing, asthma, swelling of mouth, Shortness of breath, can lead to anaphylactic shock</td>
<td>Latex proteins – direct contact or inhalation.</td>
<td>Anaphalactic shock is very rare and is treated with adrenaline</td>
</tr>
</tbody>
</table>

*(Italics indicates another name by which reaction may be known)*

Irritant contact dermatitis may cause a break in the skin barrier, which makes it easier for latex proteins to gain access and thus promote development of allergy.

The proteins responsible for latex allergies have been shown to fasten to the powder (cornstarch, talc), that is added to gloves to facilitate donning and removal. This powder can serve as a carrier for the allergenic proteins in the gloves. Hence, when powdered gloves are worn, more latex proteins reach the skin. When powdered gloves are changed the powder particles become airborne and can be inhaled and in contact with body membranes.
What should the employer do?

Under legislation the employer is obliged to assess latex exposure. S/he then must decide how to either prevent, or put any necessary precautions in place to adequately control the risks. In practice protective measures likely to be identified by a suitable and sufficient risk assessment may include some of the following, where appropriate:

1. Implementing a policy on latex use
2. Limiting exposure – e.g. not wearing gloves when there is no risk of infection – such as when making beds
3. Identify all latex products in use
4. Identify latex substitutes and use where reasonable
5. Use powder free gloves
6. Use low protein content gloves
7. Good house keeping to remove latex containing dust from the workplace
8. Good hand care – hand washing, drying of hands fully. Barrier creams should not be used in conjunction with latex gloves as they may increase the penetration of the allergens
9. Use of non-latex gloves for high risk workers (those sensitised to latex) and prevention exposure to airborne powder particles from latex gloves
10. Implementing a health surveillance programme
11. Ensuring that employees are aware of:
   • the risks of exposure to latex
   • safe working methods
   • arrangements for health checks/surveillance
   • how to recognise the early symptoms and
   • the action needed if they think they are affected by latex

Although outside the remit of the Health and Safety Authority, the following is a brief reminder of patient care in the context of latex allergy:

A health care facility should be aware of latex allergy among the patients and where necessary provide a latex-safe environment for latex allergic patients needing medical, surgical or dental procedures. Latex-safe areas are defined as those containing only non-latex materials. Staff caring for such patients should not use latex gloves when touching the patients. Also emergency carts with latex-free medical products should be available in the hospital. Spina bifida patients have a higher sensitisation rate and prevalence of latex allergy with a higher risk of anaphylaxis during surgical procedures. It is believed that this is due to extensive latex exposure in early life. Patients who have undergone multiple procedures are also at a higher risk.
Appendix 7

Asbestos Awareness

7.1 WHAT THE LAW SAYS


The law requires employers to prevent the exposure of employees to asbestos. If this is not reasonably practicable the law says their exposure should be controlled to the lowest possible level. Before any work with asbestos is carried out, the Regulations require employers to make an assessment of the likely exposure of employees to asbestos dust. The assessment should include a description of the precautions, which are to be taken to control dust release and to protect workers and others who may be affected by that work. If you are employing a contractor to work in your building, make sure that either the work will not lead to asbestos exposures or identify work practices to reduce exposures.

7.2 WHAT YOU SHOULD TELL YOUR WORKERS/CONTRACTORS

Make sure that employees involved in building maintenance work, and any contractors working on the premises, know that the building contains, or may contain asbestos – its type, and location. One should make sure that they are aware of the risks to their health if they disturb it. Make them aware of the asbestos register, if you have one, and the possibility of coming across hidden asbestos materials that should be recorded on the register.

Where specialist asbestos removal contractors are removing asbestos in your organisation, you must make sure they know what type of asbestos is present and what precautions they should take. Furthermore they should have notified the work to the Health and Safety Authority in accordance with the Regulations.

7.3 WHAT IS ASBESTOS?

Asbestos is a group of naturally occurring minerals. The three most common types of Asbestos are:

(a) Chrysotile
(b) Amosite
(c) Crocidolite

Asbestos is commonly used as an acoustic insulator, in thermal insulation, fire proofing and in other building materials. Asbestos fibres are incredibly strong and have properties that make them resistant to heat. Asbestos is often found in ceiling tiles, pipe and vessel insulation, blown on to structural beams and ceilings, in floor tiles, linoleum and mastic.

7.4 WHY IS ASBESTOS A HAZARD?

Asbestos is made up of microscopic bundles of fibres that may become airborne when disturbed. These fibres get into the air and may become inhaled into the lungs, where they may cause significant health problems. Researchers still have not determined a “Safe Level” of exposure, but we know that the greater and the longer the exposure, the greater the risk of contracting asbestos related disease. Some of these health problems include:

(a) Asbestosis:
   A lung disease the latency period for which time it takes for the disease to develop is often 25-40 years.
(b) Mesothelioma:
A cancer of the outer lining of the lung and the lining of the abdominal wall. This form of cancer is peculiar because the main cause is from Asbestos exposure. The latency period for mesothelioma often up to 30 years.

(c) Cancer:
Lung cancer (Carcinoma of the Bronchus) is the commonest cancer caused by asbestos. The effects of lung cancer are often greatly increased by cigarette smoking.

7.5 WHEN IS ASBESTOS A HAZARD?
Asbestos is not always an immediate hazard. In fact, if asbestos can be maintained in good condition, it is recommended that it be left alone and periodic surveillance performed to monitor its condition. It is only when asbestos containing materials are disturbed, or the materials become damaged, that it becomes a hazard. When the materials become damaged the fibres separate and may then become airborne. In the asbestos industry, the term 'friable' is used to describe asbestos that can be reduced to dust by hand pressure. Machine grinding, sanding and dry-buffing are ways of causing non-friable materials to become friable.

7.6 HOW ARE ASBESTOS-CONTAINING MATERIALS MAINTAINED?
Friable asbestos can be maintained in place utilising several techniques. Encapsulation involves applying a thick layer of an encapsulant, much like latex paint, that binds the surface of the material together. Encapsulation and routine monitoring are not enough to prevent damage. When damage occurs, removal may be the best option.

7.7 WHEN IS IT NECESSARY TO REMOVE ASBESTOS-CONTAINING MATERIALS?
It is only when the material can no longer be maintained in good condition and/or when the building is to be demolished or renovated, that removal may become the only option.

In Ireland, asbestos waste may only be disposed of by obtaining the necessary licences. Advice on seeking these licences can be obtained from the Environmental Protection Agency (EPA), telephone number: 053-60600.

7.8. WHEN IS IT REQUIRED TO HAVE A BUILDING INSPECTION OR SURVEY?
The Department of Health and Children has recently requested that properties/buildings within the Health Services Sector be surveyed. In surveying, it is important to:

(a) Find out whether Asbestos is present in the building and where it is located
(b) Assume that Asbestos is present unless they can be sure it is not
(c) Record the findings (Asbestos Register)
(d) Prepare and implement plans to manage the risks from the asbestos
(e) Provide information to anyone liable to come into contact with asbestos
(f) Prepare a Management Plan Programming the removal of asbestos materials from the Buildings inclusive of costs for submission to the Department of Health and Children for funding

7.9 HOW IS ASBESTOS REMOVED?
When removal is to be conducted, the appointed competent Contractor must notify the Health and Safety Authority 28 days prior to commencement of removal, if the work is likely to exceed the action limits. Contractors construct a containment, sealing all possible entries and exits to prevent air from escaping from containment. Containments are maintained under negative pressure and the air is exhausted through special filters that make exhausted air safe. A decontamination unit is built on to the containment, where workers change into disposable suits and respirators upon entering, and shower before exiting the work area, so as not to contaminate the area around the containment by tracking out asbestos on their clothes or body. Once
the containment is up to approval standard, the Contractor wets down the material, which helps reduce the airborne fibre count. As the material is wetted, it is gathered and collected in specifically labelled disposal bags. When a bag is full, it is sealed well, wiped down and placed into a second bag, which is also sealed. The bags are placed in a secure location to await transfer to a specially lined waste container for further transportation. In progress inspections by the Contractor are performed throughout the removal process. After the clearance, monitoring is conducted and the air counts are checked to ensure that they are within the accepted levels. Only then is the containment unit removed.

7.10 WHERE DOES ASBESTOS GO AFTER IT IS REMOVED?
After removal, the sealed bags are transported by the licensed, competent Contractor who has made suitable arrangements with the EPA.

7.11 HOW CAN I TELL IF I HAVE ASBESTOS IN MY BUILDING?
The only way to tell if a building material contains asbestos is to send samples to a certified Laboratory, where they are analysed under the microscope to determine the content. It is best to presume that any suspect material is asbestos until a Laboratory analysis is conducted.

7.12 WHO DO I CALL IF I HAVE A CONCERN?
Health & Safety Authority 01-6147000
Environmental Protection Agency 01-6674474
Enterprise Ireland 01-8082712
Fire Safety Measures for Hospitals

8.1 INTRODUCTION

Effective fire precautions for hospitals and other Health Care premises must ensure the safety of patients, visitors and staff on the premises. A combination of measures ARE NECESSARY to reduce the dangers of fire taking the following points into account:

1. Safe design of buildings to include access and egress. All building materials should comply with the relevant fire standards
2. All buildings should have fire alarm and emergency lighting systems
3. Fire/smoke compartmentation, using fire doors and partitions to protect buildings, should be applied
4. First aid/fire fighting equipment should be provided
5. Fire hydrants where necessary should be provided
6. Fire brigade access should be available

8.2 STANDARDS

- The Fire Services Act, 1981, and the Building Control Regulations
- Safety Health and Welfare at Work Act, 1989
- All statutes and guidance relevant to the scheme as a whole
- The advice and approval of the Local Authority including the Local Fire Authority
- The advice of the Department of Health and Children
- Any other recognised standard

8.3 GENERAL

The key role of management in the Health Services is in devising and implementing policies and programmes for dealing with life threatening situations presented by fire in an extremely vulnerable environment and for ensuring that staff at all levels receive appropriate training in fire safety and evacuation procedures. Training in fire safety procedures and practices appropriate to the workplace must be provided and attended by all staff at least once in each calendar year.

8.4 BACKGROUND

Few people have first hand experience of a serious fire, yet all appreciate the threat it presents to life causing death, disability or illness. A special responsibility therefore devolves on hospital/health care Managers in relation to fire safety in their premises.

A “life threatening” fire is one which may lead to casualties and where evacuation is necessary. The potential for serious fires indicates the need for adequate staffing in wards during the day, especially in the evenings and nights. The dangers of smoke logging resulting from the lack of compartmentation, or the ineffective use of fire doors, and the use of non-flame resistant clothing, bedding and other materials contribute to the seriousness of a fire. Apart from the risk to life, a serious fire disrupts patient-treatment, services and damages property.
Consideration should be given to the following matters in drawing up an appropriate fire prevention strategy:

- The provision of adequate means of escape including an alternative means of escape, to be used by patients, visitors and staff is a statutory requirement.
- Means of escape becomes crucial once a fire has started and there is a requirement for alternative means of escape. Fire containment and evacuation becomes the principal of escape, where wards/corridors can be protected by compartmentation and this is achieved by the use of fire doors.
- Everyone from the Chief Executive Officer downwards has responsibility to understand the characteristics of fire, smoke and toxic fumes, to know the fire hazards of their working environment and to practice and promote fire safety and the need to react instinctively and instantly when the fire alarm is activated or a fire occurs.
- Fire alarm early warning detection systems with emergency lighting, fire/smoke stop door with self closing devices and magnetic door holders where necessary must be provided. Fire hose reels and first aid extinguishers should be provided and should be suitable for the particular fire loading within a ward/department or building.
- Fire Safety signs and notices are statutory (blue/white). Fire precaution notices and fire action notices are required to ensure that the means of escape and fire precautions are maintained.
  - “Prohibition” signs are displayed as white/red.
  - Safety – White/green
  - Hazards – Black/yellow
- Escape routes and fire exits must be prominently signposted. It must be possible to see fire exit signs during a period of electrical failure or when an outbreak of fire occurs.

### 8.5 STAFFING LEVELS

The presence of an adequate number of trained staff is the best first line of defence against fire. This is particularly important in the evening or at night. Evacuation training must be based on the clinical dependency of the patients. Staff numbers must be available to protect patients of high dependency and the staffing levels in such areas must never be less than two, for example during meal breaks. It is the responsibility of Management to ensure adequate staffing levels to deal with patient evacuation should it be necessary.

Agency staff, part-time staff and temporary staff must be trained to deal with an outbreak of fire and evacuation of patients in the event of a fire.

### 8.6 CAUSES OF FIRE

- Smoking
- Accident
- Electricity
- Arson
- Combustible : Liquids, Gases, Waste, Substances
- Maintenance
- Outside Contractors
- Aerosol Containers
- Lightning
- Boiler Houses (solid fuel burners)
NOTE
1. The number of beds in a protected area should not exceed 10 beds. However in the case of purpose built accommodation up to 12 beds will be acceptable.
2. The fire doors must not be tied or wedged open.
3. All senior staff should ensure that all staff under their control attend fire lectures, drills and other lectures.
4. All fire lectures and drills must be carried out by a competent person.

8.7 FIRE PREVENTION/SAFETY REPORT

1. Introduction
Under the Fire Services Act, 1981, and the Safety, Health and Welfare at Work Act, 1989, staff are obliged to attend regular fire drills, i.e. Health Boards insist that staff should attend at least once in a calendar year - January 1st to December 31st.

A computer programme may be used to identify staff who comply or fail to comply with their legal/employer's requirements to attend fire lectures/drills.

Under the 1989 Act, employees must co-operate with their employer. Fire lectures and drills come within that area of co-operation.

At fire drills, each member attending signs the register and this should be recorded for record purposes. From these records, it will be possible to identify the number who attend and those who fail to attend fire lectures/drills.

2. Staff Training
Fire lectures cover the following areas:-
- Fire Instructions
- Fire Prevention
- Evacuation and methods
- Smoke effect in buildings
- Fire dangers in the Hospital/Home
- The Local Fire Brigade
- Question and answer sessions
- The Fire Alarm System + direct link to Fire Brigade
- Use of first aid fire fighting equipment and types of fires related to use
- Compartmentalisation

Practical fire drills held at regular intervals cover the following areas:-
- Practical fire alarm drill
- Practical fire assembly drill
- Practical evacuation drill
- Practical smoke simulated exercises
- Practical first aid equipment drill - covers practical attack on dry fires and oil based fires. Each piece of equipment - its use, application, technique and its limitation is demonstrated to be applied in fire fighting
(f) Fire Brigade – fire/smoke simulated exercises involving the following:
- The fire alarm being activated - evacuation by staff of the affected area
- The fire plan being put in to action
- The Fire Brigade being contacted
- Evacuation of the affected area
- The use of non-toxic smoke being pumped into a pre-selected area, e.g. ward, store, other
- Dummies representing patients being left within the area
- The Fire Brigade arriving on site
- The Fire Brigade locate and rescue the patients (dummies)

3. Fire Fighting Equipment.
Contracts should be awarded to a specialist company to service and report on the condition of all first aid equipment and to make recommendations where cover needs to be improved.

Automatic detection alarm and emergency lighting systems should be protected under contract by relevant specialist companies and for a quarter yearly service of equipment to take place so that every unit of equipment is checked at least once in a calendar year.

5. Purchasing Policy.
All materials should reach the required flame resistant standard. All materials must be certified that they reach the tests required. Material for health care premises should be non-flammable i.e.
- Mattresses.
- Chairs.
- Tweeds.
- Curtains.
- Bedding.
- Pillows.
- Foam.
- Nightwear
- Any other material