NATIONAL OCCUPATIONAL MORBIDITY DUE TO EXPOSURE TO RESPIRATORY AND SKIN SENSITIZERS AND BIOLOGICAL AGENTS

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INTRODUCTION

Occupational medicine is the medical discipline studying the physiological and pathological relationship between the human organism and work, in order to recommend the remedies that allow occupational activities to be performed in physiologic and hygienic conditions that sustain a high level work capacity, prevent occupational diseases and work related diseases.

In a new perception, occupational medicine is a multidisciplinary science that studies the effect of work upon workers’ health, as well as the effect of workers’ health upon work capacity. It’s main target is prevention, but it was and continues to be involved in identifying, inquiring and treating occupational diseases.

Occupational health and safety (OHS) is a modern concept, the result of both individual and group values, capacities, competencies, behaviors, habits governing the employment, style and efficiency of OHS programs. A good OHS culture at company level implies communication based upon mutual trust, common perception of OHS’s importance and confidence in the efficacy of preventive remedies.


The idea for the paper started from a message sent by the European Agency for Safety and Health at Work from Bilbao, which under the title: “Dangerous Substances Handle with care” started in 2003, in Europe, the campaign for prevention of the risks of occupational exposure to dangerous substances such as:

- Respiratory sensitizers
- Skin sensitizers
- Biological agents

Centralizing the data received from the occupational physicians from the county centers of public health (BP₂ forms) the conclusion was that, in Romania, the exposure to these type of agents have an impact upon health, resulting in medical leaves, thus the need to implement extended prophylactic programs.

Occupational diseases in Romania

The knowledge regarding occupational morbidity is very important because it is the result of occupational exposure to noxious conditions in the work place and, once established, can be alleviated through technical-organizational and medical remedies.

The status of occupational morbidity in Romania, between 1973 and 2002 is shown in the following table:
### Table 1 The evolution of occupational diseases’ incidence between 1973 and 2002

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of new cases</th>
<th>Incidence (100,000 exposed)</th>
<th>Year</th>
<th>No. of new cases</th>
<th>Incidence (100,000 exposed)</th>
</tr>
</thead>
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<tr>
<td>1973</td>
<td>3101</td>
<td>391.9</td>
<td>1988</td>
<td>1294</td>
<td>126.1</td>
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<tr>
<td>1974</td>
<td>3044</td>
<td>357.7</td>
<td>1989</td>
<td>1423</td>
<td>134.4</td>
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<tr>
<td>1975</td>
<td>2828</td>
<td>330.0</td>
<td>1990</td>
<td>1470</td>
<td>142.1</td>
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<tr>
<td>1976</td>
<td>2894</td>
<td>325.2</td>
<td>1991</td>
<td>1414</td>
<td>140.4</td>
</tr>
<tr>
<td>1977</td>
<td>2498</td>
<td>285.2</td>
<td>1992</td>
<td>1506</td>
<td>139.1</td>
</tr>
<tr>
<td>1978</td>
<td>2766</td>
<td>299.8</td>
<td>1993</td>
<td>1562</td>
<td>162.9</td>
</tr>
<tr>
<td>1979</td>
<td>2832</td>
<td>291.1</td>
<td>1994</td>
<td>1875</td>
<td>201.5</td>
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<tr>
<td>1980</td>
<td>2310</td>
<td>240.7</td>
<td>1995</td>
<td>2031</td>
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</tr>
<tr>
<td>1981</td>
<td>2568</td>
<td>264.8</td>
<td>1996</td>
<td>2015</td>
<td>204.2</td>
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<td>1982</td>
<td>2464</td>
<td>253.8</td>
<td>1997</td>
<td>2060</td>
<td>225.0</td>
</tr>
<tr>
<td>1983</td>
<td>2231</td>
<td>227.5</td>
<td>1998</td>
<td>1828</td>
<td>182.79</td>
</tr>
<tr>
<td>1984</td>
<td>1683</td>
<td>171.3</td>
<td>1999</td>
<td>1802</td>
<td>192.92</td>
</tr>
<tr>
<td>1985</td>
<td>1498</td>
<td>151.5</td>
<td>2000</td>
<td>1576</td>
<td>125.19</td>
</tr>
<tr>
<td>1986</td>
<td>1426</td>
<td>141.0</td>
<td>2001</td>
<td>2238</td>
<td>151.28</td>
</tr>
<tr>
<td>1987</td>
<td>1384</td>
<td>138.2</td>
<td>2002</td>
<td>2508</td>
<td>132.98</td>
</tr>
</tbody>
</table>

### Graph 1 The evolution of occupational diseases’ incidence between 1981 and 2002

In the period 1998-2000, we witnessed a decrease of the occupational incidence, with a slight increase in 2001.

Table 2: New cases of occupational diseases in the period 1992-2002

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total no. of cases</strong></td>
<td>1506</td>
<td>1562</td>
<td>1875</td>
<td>2031</td>
<td>2015</td>
<td>2060</td>
<td>1828</td>
<td>1802</td>
<td>1576</td>
<td>2238</td>
<td>2508</td>
</tr>
<tr>
<td><strong>Occupational noise-induced hearing loss</strong></td>
<td>56</td>
<td>50</td>
<td>56</td>
<td>159</td>
<td>337</td>
<td>211</td>
<td>386</td>
<td>386</td>
<td>696</td>
<td>890</td>
<td></td>
</tr>
<tr>
<td>- with lead</td>
<td>405</td>
<td>419</td>
<td>362</td>
<td>355</td>
<td>392</td>
<td>338</td>
<td>287</td>
<td>184</td>
<td>288</td>
<td>432</td>
<td></td>
</tr>
<tr>
<td>- with carbon monoxide</td>
<td>266</td>
<td>310</td>
<td>241</td>
<td>232</td>
<td>248</td>
<td>237</td>
<td>238</td>
<td>129</td>
<td>187</td>
<td>324</td>
<td></td>
</tr>
<tr>
<td><strong>Silicosis</strong></td>
<td>611</td>
<td>586</td>
<td>795</td>
<td>787</td>
<td>594</td>
<td>735</td>
<td>649</td>
<td>530</td>
<td>501</td>
<td>411</td>
<td></td>
</tr>
<tr>
<td>- silicosis</td>
<td>583</td>
<td>561</td>
<td>781</td>
<td>747</td>
<td>566</td>
<td>519</td>
<td>680</td>
<td>635</td>
<td>521</td>
<td>498</td>
<td></td>
</tr>
<tr>
<td>- silicotuberculosis</td>
<td>28</td>
<td>25</td>
<td>14</td>
<td>40</td>
<td>29</td>
<td>63</td>
<td>52</td>
<td>14</td>
<td>6</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td><strong>Bronchial asthma</strong></td>
<td>199</td>
<td>170</td>
<td>259</td>
<td>252</td>
<td>250</td>
<td>265</td>
<td>199</td>
<td>118</td>
<td>120</td>
<td>144</td>
<td></td>
</tr>
<tr>
<td><strong>Occupational diseases due to vibrations</strong></td>
<td>11</td>
<td>21</td>
<td>16</td>
<td>55</td>
<td>121</td>
<td>120</td>
<td>100</td>
<td>106</td>
<td>74</td>
<td>141</td>
<td></td>
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<tr>
<td><strong>Skin diseases</strong></td>
<td>74</td>
<td>78</td>
<td>143</td>
<td>172</td>
<td>147</td>
<td>89</td>
<td>64</td>
<td>36</td>
<td>48</td>
<td>45</td>
<td></td>
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<tr>
<td><strong>Chronic bronchitis</strong></td>
<td>84</td>
<td>43</td>
<td>44</td>
<td>60</td>
<td>48</td>
<td>61</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Infectious, parasitic diseases</strong></td>
<td>20</td>
<td>17</td>
<td>49</td>
<td>14</td>
<td>28</td>
<td>39</td>
<td>44</td>
<td>35</td>
<td>34</td>
<td>232</td>
<td></td>
</tr>
<tr>
<td><strong>Repetitive trauma, out of which:</strong></td>
<td>10</td>
<td>7</td>
<td>6</td>
<td>12</td>
<td>15</td>
<td>27</td>
<td>21</td>
<td>14</td>
<td>39</td>
<td>50</td>
<td></td>
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<tr>
<td>- larynx</td>
<td>4</td>
<td>9</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- musculoskeletal system</td>
<td>21</td>
<td>34</td>
<td>31</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- eyes</td>
<td>14</td>
<td>0</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- neuropsychological and sensorial</td>
<td>0</td>
<td>2</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Asbestosis</strong></td>
<td>0</td>
<td>4</td>
<td>1</td>
<td>11</td>
<td>26</td>
<td>21</td>
<td>6</td>
<td>55</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Byssinosis</strong></td>
<td>6</td>
<td>28</td>
<td>26</td>
<td>16</td>
<td>32</td>
<td>17</td>
<td>10</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The analysis of the number of cases by type of production shows that in our country, the highest number of cases is reported in metallurgy (554 new cases – 22.12% of total number of reported occupational diseases), in car manufacturing (432 new cases – 17.25%) and nonferrous ore extraction (267 new cases – 10.66%).

In metallurgy occupational poisoning prevails (308 new cases, out of which 299 due to lead, 8 due to arsenic and 3 due to carbon monoxide), followed by occupational noise-induced hearing loss (182 new cases) and silicosis (173 new cases); in nonferrous ore extraction silicosis is the leader with 173 new cases, followed by occupational noise-induced hearing loss (47 new cases), almost the same as occupational vibration-induced trauma (41 new cases).

As presented, through the number of new cases, the descriptive epidemiology of occupational diseases in Romania represents a picture regarding the “classic” occupational diseases, well defined and known due to obvious cause (work place risk) – effect (diseases) relationship.

The number of occupational diseases by county reported in 2002 is shown in the table bellow:

<table>
<thead>
<tr>
<th>County</th>
<th>No. new cases</th>
<th>No. exposed</th>
<th>Incidence 100,000 exposed</th>
<th>County</th>
<th>No. new cases</th>
<th>No. exposed</th>
<th>Incidence 100,000 exposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sibiu</td>
<td>349</td>
<td>24845</td>
<td>1404.71</td>
<td>Iaşi</td>
<td>60</td>
<td>72688</td>
<td>82.54</td>
</tr>
<tr>
<td>Brăila</td>
<td>170</td>
<td>19161</td>
<td>887.22</td>
<td>Bistriţa</td>
<td>26</td>
<td>34337</td>
<td>75.72</td>
</tr>
<tr>
<td>Maramureş</td>
<td>201</td>
<td>25031</td>
<td>803.00</td>
<td>Covasna</td>
<td>3</td>
<td>4256</td>
<td>70.49</td>
</tr>
<tr>
<td>Bucureşti</td>
<td>487</td>
<td>84790</td>
<td>574.36</td>
<td>Suceava</td>
<td>73</td>
<td>119123</td>
<td>61.28</td>
</tr>
<tr>
<td>Ilfov</td>
<td>9</td>
<td>1568</td>
<td>573.98</td>
<td>Dâmboviţa</td>
<td>19</td>
<td>34585</td>
<td>54.94</td>
</tr>
<tr>
<td>Olt</td>
<td>103</td>
<td>21393</td>
<td>481.47</td>
<td>Hunedoara</td>
<td>66</td>
<td>142689</td>
<td>46.25</td>
</tr>
<tr>
<td>Harghita</td>
<td>113</td>
<td>27097</td>
<td>417.02</td>
<td>Mureş</td>
<td>19</td>
<td>43854</td>
<td>43.33</td>
</tr>
<tr>
<td>Bihor</td>
<td>53</td>
<td>15270</td>
<td>347.09</td>
<td>Gorj</td>
<td>22</td>
<td>54104</td>
<td>40.66</td>
</tr>
<tr>
<td>Brăila</td>
<td>78</td>
<td>27777</td>
<td>280.81</td>
<td>Prahova</td>
<td>16</td>
<td>40798</td>
<td>39.22</td>
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<tr>
<td>Tulcea</td>
<td>5</td>
<td>1932</td>
<td>258.80</td>
<td>Galaţi</td>
<td>20</td>
<td>55080</td>
<td>36.31</td>
</tr>
<tr>
<td>Alba</td>
<td>39</td>
<td>16380</td>
<td>238.10</td>
<td>Teleorman</td>
<td>5</td>
<td>16079</td>
<td>31.10</td>
</tr>
<tr>
<td>Dolj</td>
<td>111</td>
<td>62325</td>
<td>178.10</td>
<td>Bacău</td>
<td>16</td>
<td>56104</td>
<td>28.52</td>
</tr>
<tr>
<td>Satu-Mare</td>
<td>85</td>
<td>47877</td>
<td>177.54</td>
<td>Giurgiu</td>
<td>1</td>
<td>4217</td>
<td>23.71</td>
</tr>
<tr>
<td>Sălaj</td>
<td>14</td>
<td>7909</td>
<td>177.01</td>
<td>Vaslui</td>
<td>4</td>
<td>17035</td>
<td>23.48</td>
</tr>
<tr>
<td>Arad</td>
<td>24</td>
<td>13589</td>
<td>176.61</td>
<td>Vrancea</td>
<td>3</td>
<td>18301</td>
<td>16.39</td>
</tr>
<tr>
<td>Mehedinţi</td>
<td>32</td>
<td>23343</td>
<td>137.09</td>
<td>Constanţa</td>
<td>8</td>
<td>50553</td>
<td>15.82</td>
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<tr>
<td>Călăraşi</td>
<td>5</td>
<td>3650</td>
<td>136.99</td>
<td>Neamţ</td>
<td>11</td>
<td>72600</td>
<td>15.15</td>
</tr>
<tr>
<td>Argeş</td>
<td>98</td>
<td>80109</td>
<td>122.33</td>
<td>Caraş</td>
<td>1</td>
<td>13896</td>
<td>7.20</td>
</tr>
<tr>
<td>Buzău</td>
<td>36</td>
<td>32318</td>
<td>111.39</td>
<td>Ialomiţa</td>
<td>1</td>
<td>16977</td>
<td>5.89</td>
</tr>
<tr>
<td>Cluj</td>
<td>82</td>
<td>76796</td>
<td>106.78</td>
<td>Timiş</td>
<td>8</td>
<td>151830</td>
<td>5.27</td>
</tr>
<tr>
<td>Vâlcea</td>
<td>32</td>
<td>36904</td>
<td>86.71</td>
<td>Botoşani</td>
<td>0</td>
<td>216761</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Total 2508 1885931 132.98
Geographical differences show, primarily, the differences between the types of production, but also the aggressiveness of risk factors which, frequently exceed the limit values. We can’t deny, though, that the concern of occupational physicians for tracking and reporting occupational diseases induced an increase in the number of cases in those counties.

Analyzing the distribution of new cases by occupation (graph 3), we notice that the leaders, with the highest number of reported occupational diseases are: locksmiths (263 new cases), miners (199 new cases), founders (158 new cases), casters (143 new cases), welders (128 new cases), nurses (108 new cases), carpenters (106 new cases) and mechanics (89 new cases).

**Graph 2** Counties with highest incidence of occupational morbidity

**Graph 3** New cases of occupational diseases by occupation in 2002

**Details regarding the content and significance of the study**
Which is Romania’s status from Europe’s actions to point out these risks stand?
How big is the impact upon exposed employees?
What’s the ratio of these diseases in the general morbidity?
These are questions that the study answers through registered data.
**Occupational poisoning**

Occupational poisoning occupy the second place in the structure of causes of new cases of occupational diseases in Romania. In 2002 there have been reported 432 new cases of occupational, representing 17.22 percent out of the total number of occupational diseases in Romania.

<table>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No. cases</td>
<td>405</td>
<td>419</td>
<td>362</td>
<td>372</td>
<td>355</td>
<td>392</td>
<td>338</td>
<td>285</td>
<td>184</td>
<td>288</td>
<td>432</td>
</tr>
</tbody>
</table>

**Graph 4 Distribution of poisoning cases by clinical aspects in 2002**

In 2002 we registered 324 lead poisonings, mean period of exposure for the registered cases being 13.71 years.

**Organic solvents**

These are substances that, from structural point of view, belong to different classes of chemicals, but which, in total have some common characteristics, especially chemical, that justify their distribution in the same frame. These substances are volatile liquids issuing vapors at normal temperature, which pervading the organism, especially by respiratory routes, with toxic effects upon organism.

Due to this exposure, in 2002 we registered 31 cases of chronic poisoning with organic solvents and 8 new cases of chronic poisoning with benzene and compounds.
Carbon monoxide

There are many industrial sources of carbon monoxide, including all the operations resulting in incomplete combustion (for the purpose of obtaining heat or energy) or powerful heating, materials containing carbon (coal, wood, natural gases, fuel oil, gas or any other organic substance).

Regarding combustion, the risk arises when the combustion is incomplete, due to insufficient oxygen intake.

In 2002 we registered 26 new cases of acute poisoning and 3 cases of chronic or subacute poisoning with carbon monoxide.

Chromium

Occupational exposure is the main source of chromium contamination. Chromium and it’s compounds can be found in the working area as follows: chromate, dichromate and pigments manufacture, kip tanning, metal covering, production of refractory materials.

Better known are the clinical aspects and pathological changes due to chromium VI. Effects on skin and mucous membranes, pulmonary and gastrointestinal systems, oncogenic and mutagenic effects are the most important changes induced by chromium ions in the organism.

Occupational diseases induced by the exposure to chromium (47 cases) are 1.87 percent out of total number of occupational diseases in Romania in 2001, with an incidence of 1942.95 for 100,000 exposed employees.

Occupational diseases induced by vegetal dust and fibers

Occupational bronchial asthma

The clinical studies confirm that bronchial asthma is reported more frequently in work places with exposure to dust, fumes and vapors.

The total number of occupational bronchial asthma, in 2002 in Romania shows a slight increase compared to previous years.

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<tr>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No. cases</td>
<td>199</td>
<td>170</td>
<td>259</td>
<td>252</td>
<td>250</td>
<td>265</td>
<td>199</td>
<td>118</td>
<td>120</td>
<td>144</td>
<td>197</td>
</tr>
</tbody>
</table>

Most frequent cases have been caused by repeated exposure to agents such as:

<table>
<thead>
<tr>
<th>Group of agents</th>
<th>Type of agent</th>
<th>No. cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irritant fumes and vapors</td>
<td>fluoride and compounds</td>
<td>98</td>
</tr>
<tr>
<td></td>
<td>mixture of different irritant fumes and vapors</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>mineral oil and cooling liquid</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>welding fumes</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>formaldehyde</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>resins</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>fungi, moulds</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>iodophors, antibiotics, disinfectants</td>
<td>1</td>
</tr>
<tr>
<td>Irritant and allergenic organic dust</td>
<td>flour</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>wood dust</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>feathers, dust, animal hair</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>tobacco</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>starch</td>
<td>1</td>
</tr>
<tr>
<td>Group of agents</td>
<td>Type of agent</td>
<td>No. cases</td>
</tr>
<tr>
<td>------------------------------</td>
<td>----------------------------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>Fungi</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Textile dust</td>
<td>Textile dust – mixture</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Wool</td>
<td>1</td>
</tr>
<tr>
<td>Other types of dust</td>
<td>Cement, lime, gypsum, limestone</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Drugs</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Unspecified dust, mineral wool</td>
<td>1</td>
</tr>
<tr>
<td>Organic solvents</td>
<td>Organic solvents</td>
<td>4</td>
</tr>
<tr>
<td>Cyanide compounds</td>
<td>Polyurethane</td>
<td>1</td>
</tr>
<tr>
<td>Chromium</td>
<td>Chromium</td>
<td>4</td>
</tr>
<tr>
<td>Nitro- and amino-compounds</td>
<td>Asphalt mixture</td>
<td>1</td>
</tr>
<tr>
<td>of aromatic hydrocarbons</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Allergic rhinitis

Allergic rhinitis is a form of debut of the bronchial asthma. In 2002 there have been 16 new cases of allergic rhinitis (0.64% out of total number of cases of occupational diseases), which is a low number compared to the real one.

### Occupational skin diseases

Under occupational circumstances, the skin is the most exposed organ to different physical, chemical and biological agents in the work place, resulting in a high frequency of occupational skin diseases compared to other diseases induced by the same agents.

Occupational dermatitis are induced by direct, repeated, daily exposures to different substances that come in contact with the organism at the work place.

The occupational nature of the disease is established not only by proofing the occupational circumstances that induced the disease and the causing agent, but also by the clinical-evolutive features of the disease. Thus, the correct diagnosis is the result of the cooperation between the occupational physician and dermatologist and the enquiry of the work place offers objective elements of occupational exposure to the responsible agent/agents.

In the general picture of occupational diseases in Romania, skin diseases have a 2.47 percent out of total number of diseases, thus maintaining on the same decreasing tendency as in the last years, compared to the beginning of the 90’s.

| Table 6 The annual distribution of new cases of occupational skin diseases |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| No. cases | 74 | 78 | 143 | 172 | 147 | 89 | 64 | 36 | 48 | 45 | 62 |

There is a great variety in the etiologic agents inducing orthoergic and allergic occupational skin diseases. The occurrence, in 2002, of a number of 62 cases of occupational dermatitis induced by agents such as: oils, chromium, dichromate, antibiotics lead to useful conclusions in improving the practice of occupational health.

The onset of the disease, clinical findings, the evolution of skin injuries after the interruption of exposure, are of major importance in establishing the occupational nature of the disease and in confirming the orthoergic or allergic nature of the dermatitis.
Infectious occupational diseases

These are those infectious diseases occurring in exposed persons coming in contact with different sources of infection, mostly in medical personnel attending infectious patients.

In 2002 have been recorded 214 cases of infectious diseases with an incidence of 296.99/100,000 exposed, in amazing increase (!) compared to previous years, due to the special concern of occupational diseases in reporting the new cases.

Acute viral hepatitis

The infestation with hepatitic viruses appears discontinuous, endemic-epidemic, even epidemic sometimes, especially among the persons who received blood or blood derivatives, as well as in medical personnel coming in contact with blood or blood products from patients.

In our country, in 2002 have been reported 68 new cases of viral hepatitis in medical personnel, in this area also being reported 38,334 exposed employees (incidence by activity being, thus, 177.38/100,000 exposed).

<table>
<thead>
<tr>
<th>Type</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type A</td>
<td>2.94%</td>
</tr>
<tr>
<td>Type B hepatitis</td>
<td>39.71%</td>
</tr>
<tr>
<td>Multiple infection</td>
<td>2.94%</td>
</tr>
<tr>
<td>Type C hepatitis</td>
<td>32.35%</td>
</tr>
<tr>
<td>HBS bearer</td>
<td>19.12%</td>
</tr>
<tr>
<td>Unspecified</td>
<td>2.94%</td>
</tr>
</tbody>
</table>

Occupational leptospirosis

Leptospirosis belongs to the zoonosis category. The most frequent exposure occurs in persons working in flooded and swamped areas, in rice paddies etc., where leptospira has a greater ability to live (peasants, miners), as well as in workers that come in contact with sick animals (zoo technicians, vets, workers in slaughterhouses, caretakers of lab animals). Men are more frequently affected because of the working conditions (80% of the cases).

The favorite season of the disease, in temperate areas is summer-autumn. Rainy season and flooding accommodate the spreading of the leptospira.

In 2002 have been reported 9 new cases of occupational leptospirosis.

Occupational tuberculosis

In the infectious environment from hospitals and sanatoriums, occupations such as physician, coroner, lab worker, nurse etc., come in contact with the patient are exposed to the risk of occupational tuberculosis.

Epidemiological studies have shown that medical personnel in tuberculous environment have a two-three folded risk of falling sick with tuberculosis than the population mean.
Results and conclusions

The study of occupational morbidity in Romania shows some general as well as specific features leading to the following conclusions:

1. The accurate identification of occupational risks and their surveillance at work place represent the main area of activity for occupational physicians.

2. The occupational physician is the employers’ counselor in health issues, member of the occupational health and safety committee, with the duty to point out and communicate occupational risks, in order to undertake forward technical-organizational and medical remedies.

3. The occupational physician plays also a role in occupational rehabilitation and reinstatement of workers accounted with occupational diseases or chronic diseases under active surveillance and also in restoring patients’ working capacity.

Ranking the number of occupational diseases induced by these dangerous agents falling under the theme of European Week for Occupational Safety and Health in 2003 we ascertain that on top three there are: diseases due to exposure to biological agents (212 cases), bronchial asthma (197 cases) and skin diseases (64 cases).

National morbidity data show a high interest of occupational physicians to report diseases induced by the exposure to biological agents, and also the fact that in Romania, as well as in Europe, medical sector is one of the most dangerous sectors with respect to occupational diseases.