

### 3. Organisation of vascular services

#### Hospital workload >> Volume of procedures versus outcome for open operation

Many people feel intuitively that it is better for major procedures to be performed by staff who do such operations regularly, but is this true, and if so, what number of procedures is it necessary to perform to confer competency and good outcomes?

The numbers of procedures done by individual hospitals were too small for meaningful examination of whether there was an association between volume of work and outcome by individual hospital. Therefore, hospitals were grouped according to whether they performed fewer elective open AAA repairs (low volume group) or more elective repairs (high volume group) than the median value for the number of elective repairs reported for 2002/03. For each group NCEPOD has calculated the number of patients who died within 30 days of operation and the number who were alive at 30 days. The results are shown in Table 3.

<b>Table 3. Outcome of elective cases by number of elective open procedures performed in hospital in the previous year</b>							
Outcome	Volume of cases				Sub-total	Not answered	Total
	Low	%	High	%			
Died within 30 days	11	6	14	7	25	2	<b>27</b>
Alive at 30 days	185	94	173	93	358	47	<b>405</b>
<b>Sub-total</b>	<b>196</b>		<b>187</b>		<b>383</b>	<b>49</b>	<b>432</b>
Not answered	1		1		2	0	<b>2</b>
<b>Total</b>	<b>197</b>		<b>188</b>		<b>385</b>	<b>49</b>	<b>434</b>

There does not appear to be a pattern to suggest that there is a reduced proportion of deaths associated with hospitals that perform a greater number of operations. A similar representation of the outcome of emergency operations is shown in Table 4.

<b>Table 4. Outcome of emergency cases by number of elective open procedures performed in hospital in the previous year</b>							
Outcome	Volume of cases				Sub-total	Not answered	Total
	Low	%	High	%			
Died within 30 days	45	40	32	29	77	17	<b>94</b>
Alive at 30 days	68	60	77	71	145	25	<b>170</b>
<b>Total</b>	<b>113</b>		<b>109</b>		<b>222</b>	<b>42</b>	<b>264</b>

There do appear to have been proportionately fewer deaths in the hospitals performing a greater volume of operations, but the total number of operations is not large. The relationship of outcome and the size of vascular unit is considered later in this chapter.

If it is not possible to draw firm conclusions from these data, is there other evidence from published sources that could help interpret the findings of this study that many hospitals are performing small numbers of procedures?