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Benchmarking Intensive Care Physiotherapy Staffing in Australian Tertiary Hospitals

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Congress Guide
## Poster Board #101

**BENCHMARKING INTENSIVE CARE PHYSIOTHERAPY STAFFING IN AUSTRALIAN TERTIARY HOSPITALS**

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**Introduction:** Physiotherapy is an important component in the management of patients in the intensive care unit (ICU). Existing guidelines on ICU physiotherapy staffing vary between European settings and do not contain recommendations specific to Australian settings. No comprehensive recommendations for physiotherapy staffing have been made in Australia, despite the recognition that physiotherapy plays a significant role in patient care.

**Method:** A questionnaire-based survey with 40 participating hospitals in Australia was conducted to collect data on physiotherapy staffing in ICUs. The survey included questions on staffing levels, patient care, and patient outcomes.

**Results:** The survey data indicated that physiotherapy staffing levels varied significantly across hospitals. The average number of physiotherapy sessions per patient day was 1.6, with a standard deviation of 0.4. Higher staffing levels were associated with better patient outcomes, as measured by shorter hospital stays and lower complication rates.

### Table: Staffing Levels in ICUs

<table>
<thead>
<tr>
<th>ICU Level</th>
<th>Work Days</th>
<th>Weekends</th>
<th>Weekdays</th>
<th>Weekends</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital &lt;500 beds</td>
<td>15.4 (±2.7)</td>
<td>12.0 (±2.1)</td>
<td>11.0 (±2.6)</td>
<td>10.0 (±2.1)</td>
</tr>
<tr>
<td>Hospital &gt;500 beds</td>
<td>17.4 (±2.5)</td>
<td>14.0 (±2.2)</td>
<td>13.0 (±2.6)</td>
<td>12.0 (±2.1)</td>
</tr>
</tbody>
</table>

## Poster Board #102

**COMPARATIVE ANALYSIS ON THE TIMING OF TRACHEOSTOMY DURING MECHANICAL VENTILATION**

Jung H Chang

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Despite widespread use of tracheostomy in ICU, it is still a controversial issue to define the best timing of change from noninvasive ventilation to tracheostomy under the enteral mechanical ventilation. This study was designed to compare clinical parameters between early tracheostomy (ET) and late tracheostomy (LT).

**Method:** A retrospective study was done in 25 medical and 15 surgical ICU patients with observations during 28 days from tracheostomy in terms of ET group (n=25) vs. LT group (n=25). The reference day between ET and LT was defined to 7th day from intubation.

**Results:**
- The mean age was 64±18 years in ET and 63±18 years in LT. No significant difference was found between the two groups.
- The average number of tracheostomy was 4.6±1.8 days in ET and 5.8±2.0 days in LT.
- No significant difference was found in the duration of ventilation between the two groups.
- The mortality rate was 30% in ET and 20% in LT.

**Conclusion:** There was no clinical benefit of ET vs. LT in terms of changes of severity index, noninvasive ventilation duration of ventilatory support, and mortality. It suggests that the proper time of tracheostomy is better to be decided on clinical judgement.

## Poster Board #103

**ASSESSMENT OF PLASMA AND TISSUE LACTATE BY MEANS OF SUBCUTANEOUS MICRODIALYSIS DURING SEPTIC SHOCK; CASES WITH BACTEREMIA (BA) VS. NONBACTEREMIA (NON-BA).**

K. Morisawa, S. Fujishiro, H. Takahashi, M. Yanai, Y. Taira

*St. Marianna University, Kawasaki-City, Japan.*

**Introduction:** Plasma lactate has been used as a better marker of tissue hypoperfusion in patients with sepsis. However, we hypothesized that there can be difference between plasma and tissue lactate in septic shock. We investigated plasma and tissue lactate in patients for an assessment of difference and correlation in both groups.

**Methods:** Patients with septic shock were enrolled between April 2006 and March 2008. In a mixed ICU at a tertiary care hospital in Japan, Microdialysis (MA) and Subcutaneous Microdialysis (SCM) were used to measure tissue lactate. Plasma and tissue lactate of cases with BA and Non-BA were measured 3 times with 6-hour interval after ICU admission. Then two groups were compared and analyzed. This study was conducted at a mixed ICU at a tertiary care hospital in Japan.

**Results:** Plasma lactate was measured using SCM in patients with septic shock. The lactate levels were significantly higher in BA than in Non-BA. The correlation between plasma and tissue lactate was observed in both groups (BA: r=0.50, p<0.001; Non-BA: r=0.32, p=0.012).

**Conclusion:** Plasma lactate levels were significantly higher in BA than in Non-BA. The correlation between plasma and tissue lactate was observed in both groups. This study suggests that tissue ischemia was more prominent in septic patients with BA than those with Non-BA. Tissue lactate measured by Microdialysis and plasma lactate were correlated in both BA and Non-BA groups.

## Poster Board #104

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**Results:** Fourteen cases were evaluated. The ratio of BA/MA was 2.5 (range: 62.63-94.62) and Non-BA 1.5 (range: 57.88-82.63). No difference of APACHE-2 score was found in BA and Non-BA. Tissue lactate levels were measured in plasma and tissue lactate in both BA (MA=0.88, p=0.012) and Non-BA (p=0.012). This study concludes that tissue ischemia was more prominent in septic patients with BA than those with Non-BA. Tissue lactate measured by Microdialysis and plasma lactate were correlated in both BA and Non-BA groups.