

1 **Comparison of Two Different Intensive Care Unit Systems for Severely Ill Children in**

2 **Japan: Data from the JaRPAC Registry**

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## Abstract

18 The importance of centralizing treatment services for severely ill children has been  
19 reported, however, this remains difficult in our country. We aimed to compare the severity  
20 and mortality of children admitted to common two types of ICUs for children.

21 According to the type of management and disposition of the medical provider, we defined  
22 the two types of ICUs (pediatric ICUs [PICUs] and general ICUs) and analyzed  
23 differences between them in both endogenous and exogenous illness settings.

24 Overall, 1,333 patients were included, with 1,143 patients admitted to PICUs and 190  
25 patients to general ICUs. Pediatric Cerebral Performance Category score (PCPC) at  
26 discharge was significantly lower in the PICU group (adjusted OR: 0.45, 95% CI: 0.23 -  
27 0.88). Death and unfavorable neurological outcomes occurred less often in the PICU  
28 group (adjusted OR: 0.29, 95% CI: 0.14 - 0.60). However, limited to exogenous illness,  
29 PCPC (adjusted OR: 0.38, 95% CI: 0.07 - 1.99) or death/unfavorable outcomes (adjusted  
30 OR: 0.72, 95% CI: 0.08 - 6.34) did not differ between the groups.

31 PCPC deterioration and overall sequelae/death was less in PICUs for children with  
32 endogenous illnesses, although the outcomes of exogenous illness in both units were  
33 similar. Future study of centralization is needed.