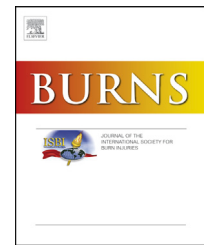


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Retrospective analysis on thermal injuries in children—Demographic, etiological and clinical data of German and Austrian pediatric hospitals 2006–2015—Approaching the new German burn registry

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ABSTRACT

Objective: The purpose of this observational, multi-center study was to reveal epidemiologic, etiological and clinical aspects of hospitalized children with thermal injuries in Germany and Austria and the workup of a renewed web-based pediatric burn registry.

Methods: From 2006 to 2015, comprehensive patient data of thermally injured children in Germany and Austria were collected prospectively. Retrospective analysis of age, gender, mechanism of injury, total body surface area burned, way of admission and length of stay was performed, followed by the comparative analysis between designated burn centers and other pediatric hospitals.

Results: 32 hospitals participated in the study including data of 13,460 thermally injured hospitalized children. The majority was 12–<36 months of age with a share of 48%. 56.5% were boys. The most frequent cause of injury was scalding representing 74.4%. Designated pediatric burn centers treated 82.2% of all patients. In relation to non-centers, no significant differences were seen concerning the affected total body surface area and the amount of patients <1 year of age in contrast to a significant difference regarding the amount of fire injuries, all being parameters indicating the severity of thermal injuries. Overall mortality was 0.1%.

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Conclusion: This study extends our knowledge about population characterization of thermally injured children, highlights risk factors and serves as a basis for the renewed pediatric burn registry from 2016 on.

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1. Introduction

Thermal injuries remain a major field of pediatric surgical and non-operative pediatric healthcare with great physical, psychological and social impact on children's life and their families. Representing a public health problem of developing and industrial countries causing a great amount of morbidity and mortality in children, a lot of resources are put into the treatment of thermally injured children [1].

In Germany, specialized adult burn centers have been established first in Bochum (1965) and Ludwigshafen (1968) [2]. The University Children's Hospital in Zurich, Switzerland, has been designated the first center for thermally injured children

within Europe. Established in 1977, it has been followed by 19 designated pediatric burn care centers within Germany nowadays. These designated pediatric burn centers as well as several other hospitals regularly involved in daily pediatric patient care provide treatment of annually more than 6000 thermally injured pediatric inpatients in Germany. The federal state governments designate specialized centers and their capacity in terms of hospital beds for pediatric patients with thermal injuries. Capacity varies between 1 and 12 beds for children per hospital. The operations center of fire service in Hamburg serves as the central point of contact managing the allocation of available hospital beds for severely thermally injured children since 1999. 19 specialized German centers cope with pediatric burn patients with an overall number of

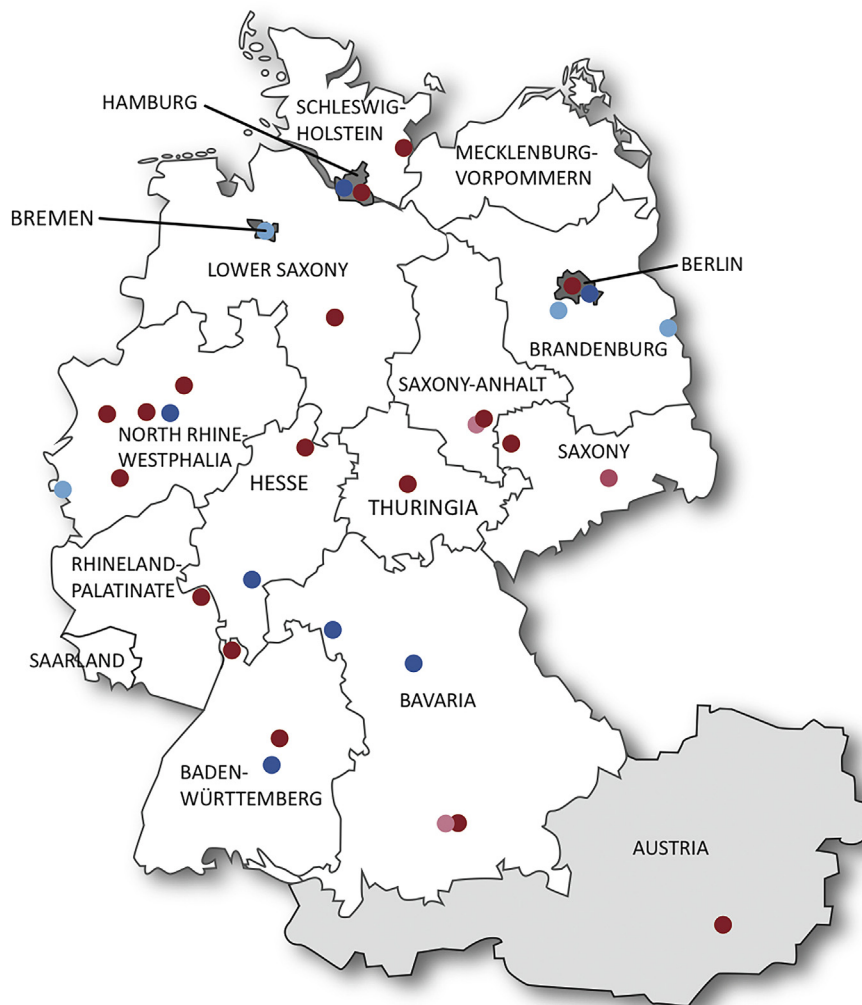


Fig. 1 – German and Austrian hospitals associated in the working group “The severely burned child”.

Light dots represent hospitals participating twice or less.

● Center participating in the study

● Non-center participating in the study

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