## Methodology

An expert group was formed to work out a European consensual practical guideline to improve cyanide poisoning recognition and management. The company Merck-Serono asked the European Society for Emergency Medicine to delegate experts to this workgroup. The European Society for Emergency Medicine supported this initiative and endorsed it by asking the National Societies / Associations to delegate an expert in both cyanide poisoning or toxicology and emergency medicine. The selection of the experts was independently from the company.

First a systematic literature review on smoke inhalation injuries specifically focusing on the effects of hydrogen cyanide was performed by two of the authors (ND and KA).

We developed a comprehensive search strategy in order to identify all relevant studies. In February 2011, a search was performed in the following electronic databases: EMBASE, MEDLINE, Cochrane Central Register of Controlled Trials (CENTRAL) and CINAHL. Before finalizing this manuscript, another search was executed with the same strategy and in the same databases in October 2011. We also contacted researchers who work in this field and checked reference lists of related systematic reviews and of all included studies. The literature search was generally made sensitive, rather than specific, to find as many articles as possible.

The MeSh terms used were [“Cyanides” OR “Cyanide” OR ”Hydrogen cyanide”] AND [“Toxicity” OR “Intoxication” OR “poisoning”] AND [“Smoke” OR “Fire”]. The following key words were used: “cyanide”, “poisoning”, “toxicity”, “fire” and “smoke”.

The search strategy initially yielded 341 citations for consideration. In a first phase, obviously irrelevant articles were excluded by reviewing the title of the search results. After this phase 204 articles were left. In a second phase, the abstract and/or full-text articles were evaluated to determine if they were eligible. All randomized controlled trials (RCTs), observational studies, case series or case reports were eligible if they reported the epidemiology, effects, diagnosis or treatment of cyanide toxicity related to fire smoke exposure. 76 articles were selected for further analysis. The remaining 128 articles were excluded due to the following reasons: irrelevant abstracts of full-text review, duplicate records, animal studies and non-smoke related cyanide studies.

The available literature consists primarily of small case series, case reports and retrospective cohort studies, which points to a low quality of the evidence. Moreover, no RCTs were identified in the literature.

Secondly, all experts were involved in a two-round modified Delphi method to create a preliminary manuscript and two algorithms. In the first round, the evaluation of practices and identification of potential practical pitfalls were established through a questionnaire completed by the panel experts. In the second round, feed-back and discussion have been conducted during a meeting and succeeded to preliminary algorithms of cyanide poisoning management.

After this initial meeting the expert group remained in contact to discuss, improve and elaborate these algorithms and documents, resulting in the compilation of the final algorithms and the finalizing of this manuscript.