

### **Causes of Newborn Asphyxia in Pudong Zong Bai Zhenggang**

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This study is an analysis of 69 cases of asphyxia of the newborn from 1994 to 1999. The findings indicate that there are a variety of factors that contribute to asphyxia of the newborn. Newborn asphyxia results mainly from the circulatory interruption of inner uterus, umbilical cord around the neck of the baby, and/or pollution and aspiration of amniotic fluid. Besides the maternal factors, newborn factors include abnormal fetal position and placental factors that contribute to the newborn asphyxia. CT tests of some of the newborn's brains indicates that the incidence rate of hypoxic-ischemic encephalopathy (HIE) approaches 82.6%, and for intracranial hemorrhage, up to 73.9%. Thus, it is quite necessary to prevent newborn asphyxia, reduce the degree of asphyxia, and avoid the occurrence of sequellae, by virtue of the following: (1) monitoring the fetus inside the uterus early and prevent problems with the inner uterus; (2) having an immediate abdominal delivery in the necessary situations; (3) taking a B ultrasonic inspection, so as to make certain of the chances that the umbilical cord is not abnormal before childbirth; and (4) taking a CT test for the brain, under good conditions.

One particular concern is that immigrating workers are reluctant to see a medical professional before childbirth, and/or are willing to have a delivery at home due to financial hardship, or refuse to come to the hospital until they are in labor and are about to deliver the baby. This lack of medical care contributes to the rise in the newborn asphyxia and its sequellae. Thus, informing the public must be emphasized

**Key words:** asphyxia; causes; diagnosis; neonatal; newborn; obstetrics; prevention

*Prehosp Disast Med* 2001;16(2):s16.

### **Anaesthetist Nurse on a Humanitarian Mission**

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The conflict in Burundi between the Tutsi power and the majority Hutu, which started in 1963, has escalated since 1993. Many factions have appeared, and a peace agreement has not been achieved. As the battles have become more intense over the recent years, the number of victims who have been entrusted to an already precarious health system has increased, justifying the need for medical help from Médecins sans Frontières (France). The daily medical needs (obstetrics, visceral, trauma) are augmented by the irregular, and, at times, massive influx of injuries as a result of the effects of constant war. The humanitarian assistance takes the shape of human resources (a team surgeon, an anaesthetist nurse or doctor, a field coordinator to negotiate with the provincial authorities, a coordinator for the general daily management), logistics (medicine, standard kits that include a sterilizer, a box of surgical instruments, an oxygen extractor, manual ventilation material, pulse

oximeter, etc.) and medical know-how from 30 years of experience in difficult conditions. The medical team demonstrates its professional competencies and qualities of human relations by taking charge of any surgical casualties, adjusting to a minimal technical environment, partnership (work and formation) with the local health service, communication with the nursed populations, development of a team spirit (between expatriates who aren't used to working together) and the constant control of security problems. The expatriate anaesthetist nurse or doctor is the only representative of this specialty, and controls the anaesthesia (general anaesthesia with or without intubation, spinal analgesia, regional intravenous anaesthesia, nerve block anaesthesia), postoperative care (hydro-electrolytic infusion, analgesia therapy, antibiotic therapy, antitetanus vaccination, medicine supply, dressing change, etc, control and management of anaesthetic and surgical equipment and sterilisation, involvement in the care and the hospital hygiene with local hospital staff, and monitoring this activity by weekly and monthly reports. Tense security issues forced the team to adjourn its activity on 22 May 2000. No governmental authority has yet permitted its reinstatement, in spite of very important medical civilian and military needs. The complex situation of this country in wartime shows the limits of the aide programs in crisis situations.

**Key words:** anaesthetists; expatriates; Hutu; logistics; needs; security; supplies; team; Tutsi; war  
*Prehosp Disast Med* 2001;16(2):s16.

### **Systematic Radiologic Checking of Gastric Tubes in ICU and Emergency Services: Preliminary Results**

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*Introduction:* There is a professional agreement concerning the radiological checking of the position of gastric tubes (GT) after their installation in the field of continual enteral feeding for adults, that it is at hospital or at home.<sup>1</sup> This research evaluated the relevance of this recommendation in emergencies and also sought predictive factors of difficulty encountered with the installation of GTs or anomalies of localization of the GT after its installation.

*Methods:* It is a prospective study. All patients admitted in our service and having profited from the installation of a GT, prehospital or not, were included. The data collected are: (1) demographic data of the patient, (2) admission data (antecedents, principal diagnosis, CGS, needs of intubation, tracheotomy or sedation), (3) mode of installation of the GT, (4) its type, and (5) existence of difficulties during this installation. Checking of the position of GT is achieved by injection of air and radiological control. The statistical tests used were Student's t-test for quantitative information and a chi-square test for qualitative data. A value of  $p < 0.05$  was considered statistically significant.

*Results:* 81 installations of GT were studied. The median age of patients is 58 years (19–94). 53% of patients were men, 32.5% of patients were sedated. Neurological or gas-

troenterologic antecedents were found in respectively 12.7% and 10.2%. 78% of the GT are passed by nurses and 23.5% by prehospital personnel. Characteristics of GT and tracheal tubes are included in the Table 1.

**Table 1**—Characteristics of GT and Tracheal Tubes

	Gastric tubes	Tracheal tubes
n	80	64 (80%)
Mode of installation	Nasogastric tube: 95%	Nasotracheal tube: 56.9%
Sizes	18 and 21: 76.5%	7 and 7.5: 80.3%
Types	PVC: 97.5%	Low pressure : 63%
Problems with the installation	22%	24%

The results of the two tests used to check the position of the GT are presented in Table 2.

**Table 2**—Results of the Tests to Check GT Positioning

	Air control (%)	Radiologic control (%)
In place	97.4	86.5
doubt or not in place	2.6	13.5

After their installation, 13.5% of the GTs are not in place after their installation (stops, 30%; pharynx, 20%; esophagus, 40%; trachea, 10%), and there exists a significant difference between the results of these two tests ( $p < 0.05$ ). There does not seem to exist any predictive criteria of difficulties during the installation or anomalies of position after the installation ( $p > 0.05$ ).

**Conclusion:** The recommendation of the systematic checking by a radiological control of the position of a GT must be extended to the fields of emergency medicine. The continuation of this study will allow the definition of predictive criteria.

**Key words:** feedings; enteral; gastric tubes; insertion; placement

**References:**

1. Health Care Practice Recommendations. ANAES. April 2000. *Prehosp Disast Med* 2001;16(2):s17.

**The "Coordinating-Emergency Physician" in the German Rescue System: Mass Casualties and their Results over Five Years in a Midsize, Populated Region**

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**Purpose:** The aims of this analysis were to determine whether the German rescue system is prepared sufficiently to respond to mass casualty situations of degree two or higher<sup>1</sup> and to identify the incidence of these events in a midsize, population-dense region in the south of Germany. **Material:** The rescue region of Augsburg covers a region of 4,100 km<sup>2</sup> with a population of about 823,000 (city: 265,000; surroundings: 558,000 inhabitants). Since 1996, all mass casualty incidents (MCIs) that included the additional call of a coordinating emergency physician (CEP) have been registered separately by our Rescue

Coordination Center (RCC). The indications used to call the CEP include: (1) 3 or more emergency physicians needed at the scene, (2) there are more than five severely injured victims, or (3) more than 10 injured persons.

Since 1999, there were 34 events, all of which were prospectively registered and reviewed to identify if the CEP Group—Augsburg is prepared to handle successfully future events, especially MCIs of third degree level that have been occurring with increasing frequency all over the country during the last few years.

**Methods:** To gain a good reliable documentation allowing quality control efforts, we applied some elements of Villareal's quality control modules:[1]

1st degree (minor): Only parts of local resources involved

2nd degree (mutual aid): Managable with local facilities

3rd degree: Regional resources exceeded

**Results:** 34 calls occurred and all of them were analyzed: 20 calls happened during the night and 14 during the day (three in the morning, 11 in the afternoon). There were 19 fire alarms, six traffic accidents, four poisonings, three explosions, one mass gathering, and one natural disaster. In total, about 580 patients were served. The lowest number per event was two people landing a duck plane, and the highest number was about 150 people during a great outdoor event in the city. According to the seasonal distribution, there was an increase of events from six calls in spring to 12 calls in winter. There were 26 events classified at a 1st degree level; seven events at a 2nd degree level; and one at the 3rd degree level.

In each of the events, individual emergency medical care was provided to all of the victims, and none of these died due to triage reasons. Afterwards, each event was exactly analyzed for quality of the response and care delivered. From these results, we developed a new documentation sheet to facilitate the immediate, full, and standardized documentation at the scene.

**Conclusion:** All over Germany, the increasing number of MCIs requires specially trained physicians and coordination of the rescue in order to handle these events and to provide sufficient prehospital care to all of the victims. The establishment of official CEP groups with clearly defined tasks, rules of liability, and fields of competence as indicated under German law will help to guarantee individual emergency medical care to all of the victims. In the future, further work must be done to be prepared for greater events. Excellent documentation and analysis of each event is necessary.

**References:**

1. Villareal M: QC module for mass casualties. *Prehosp Disast Med* 1997; 12(3):200–209.

**Key words:** coordinating emergency physician; management; multicase incident; rescue; system; victims  
*Prehosp Disast Med* 2001;16(2):s17.