During the Cold War, those people who qualified for international assistance as official refugees steadily escalated from 2.5 million in 1975 to more than 15 million in 1989 [1]. The United Nations Convention of 1951 defines a refugee as “a person who owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality and is unable or, owing to such fear, is...unwilling to return to it” [2].

In the post-Cold War period, those crossing international borders (refugees) and those migrating within their country of origin (internally displaced populations) primarily originate from source-country populations embroiled in politically-driven internal conflicts, popularly referred to as complex emergencies (CEs) [3,4]. Examples of CEs include the ethnic-based conflicts in Northern Iraq, Somalia, Rwanda, the former Yugoslavia, and, most recently, in Kosovo [1,5]. Migrant populations, which now exceed 22 million, flee from violence erupting from myriad complex social, economic, religious, and political causes. Civilian deaths, which accounted for half of all Cold War-related deaths in the 1950s, now constitute more than 90% of such deaths [1]. Over the past decade more children than soldiers--some 2 million--have died as a result of civil strife associated with CEs [1].

Refugees from Cold War persecution were most often welcomed in asylum countries as a first step to eventual immigration or emigration to a second country. They were integrated into existing health and human services by both governmental and non-gov-
ernmental organizations specializing in assisting refugee settlement. The influx of refugees from CEs to bordering countries often threatens fragile economic and ethnic balances and strains already limited health care services. Refugee camps in CEs are not temporary enclaves. Half of all refugees now living in camps were born there, becoming stateless and wholly dependent on international assistance [6,7]. Epidemiologic studies have identified refugees as suffering high mortality and morbidity rates from violent trauma, and incurring numerous public health consequences, including epidemics of communicable diseases, starvation, and severe psychosocial disabilities [3].

Health Needs of Asylum Seekers

The UN definition of an official refugee is restrictive. Those who flee to escape famine, economic loss for themselves and their children, or natural disasters do not qualify as refugees for the purpose of obtaining legal protections guaranteed by the UN High Commissioner for Refugees (UNHCR) [8]. These asylum seekers, who number more than 10 million, commonly seek out developed countries with improved economic systems [8,9]. Many developed countries, especially those experiencing recession, significant population increases, and environmental insecurities, discourage or forcibly deny any large refugee influx. In these situations national governments, UN agencies, and non-governmental organizations provide aid, including legal reviews of refugee status and counseling. Like refugees under the narrower UN definition, these asylum seekers have public health and preventive medicine requirements. Special health risks, common to all migrants, are related to overcrowding, poor nutrition, unsafe water, unsanitary living conditions, injuries, and disruption or absence of basic immunizations against vaccine-preventable diseases [1,3,4,10].

Refugee camp crises (e.g., riots and demonstrations) precipitated by fear of repatriation or pressure to voluntarily repatriate have provoked unique health consequences such as suicides, self-inflicted injuries and illnesses, and hunger strikes [11-13]. Hunger strikes as a form of political protest are now commonplace. In the first half of 1998 alone, there were more than 200 major newspaper accounts of hunger strikers from countries in every hemisphere [14]. Political dissidents and migrants have gained worldwide attention by starving themselves to near death or death, causing complex ethical, moral, medical, and legal dilemmas [15].

The impact hunger strikers have on Emergency Departments (ED) varies, depending most commonly on the numbers of patients presenting at any one time. All hunger strike events are similar in that they require unique coordination of triage, diagnosis, advocacy, legal protections, and media relations expertise, along with attention to followup services. To date, no studies have looked at the impact of large numbers of hunger strikers on emergency health services. A large influx of Vietnamese refugee hunger strikers to a major Hong Kong hospital in 1994 threw the emergency medical services into the media spotlight.

Hong Kong Experience

Refugee migration in Southeast Asia began in the 1950s after the battle of Dien Bien Phu, when thousands of Vietnamese came to Thailand from North Vietnam. This group has remained in Thailand for more than 30 years, creating political and economic problems for the region [16].

Following the collapse of the South Vietnam regime in 1975, a new wave of refugees began to flood the surrounding region. Camps of “first asylum” in China, Hong Kong, Malaysia, Singapore, Indonesia, the Philippines, and Japan housed more than 792,000 refugees in 1992. Hong Kong eventually became a country of asylum for 191,960 of the refugees [16]. A UN-sponsored international conference on Indo-Chinese refugees in June 1989 adopted a new comprehensive plan of action (CPA) based on studies suggesting that there was no longer a significant deterioration in the human rights situation in Vietnam, and that further departures were being driven more by economic than political factors [16-20].

The CPA abandoned automatic resettlement for the Vietnamese boat people, adding strict screening criteria for identifying a refugee versus an economic migrant [19-21]. Vietnamese who qualified as refugees would be resettled and those who did not qualify as refugees would be returned to Vietnam under a guarantee, monitored by UNHCR, that they would not be prosecuted by the Vietnamese government [18]. Between 1989 and 1995 a total of 60,126 boat people were screened in two Hong Kong detention centers (Whitehead and High Island). Of these, 11,487 were screened as refugees eligible for emigration to other countries. The remaining 48,639 were screened as non-refugees and entered into the Orderly Return Program (ORP) back to Vietnam [19,21].

Detainee Protests

As with previous worldwide attempts to solve complex issues of refugees, conditions of repatriation back to Vietnam have been controversial [16,22,23]. Demonstrations against the ORP led refugee groups to orga-
nize rioting, hunger strikes, and other selfinduced medical emergencies which have led to death in some cases. In February 1994 the Prince of Wales Hospital (PWH), a regional acute care 1,372-bed teaching center of the Chinese University of Hong Kong, began to receive large numbers of detainees involved in an alleged hunger strike to protest the screening decisions. The PWH has a monthly ED census of 16,000 and is the primary hospital for the care of two detention center populations. Initially, all cases were directly admitted (47% were transferred to area hospitals for admission) because PWH was concerned that patients would commit self harm in addition to the hunger strike. As the strike continued, experience suggested that inpatient treatment was an impractical solution; a majority could be safely discharged following minimal hydration or nutritional correction.

**Evaluation and Treatment**

Since Detention Center sickbay facilities were severely limited in their ability to evaluate and manage large numbers of patients, all hunger strikers were evaluated and treated in the ED. A total of 1,223 hunger strikers were treated at PWH between February 1 and May 31, 1994. Of these, 80% were males, 85.6% were adults between the ages of 20 and 40 years. Only 1.5% were below age 15; 0.4% were over age 65. Only 0.94% were admitted to inpatient wards and those admissions were for problems unrelated to the actual hunger strike (asthma, gastrointestinal bleeding, and head injury). The hunger strike ceased in June 1994.

Initial triage and evaluation at the Detention Center level was limited, but served to transfer 3-4 patients each day. An interpreter explained the process of evaluation and treatment expected at PWH to all patients. A phone-fax liaison was organized between the Detention Center and the ED.

Standardized nurse triage includes complete vital signs including orthostatic blood pressure, mental status, brief history, screening physical exam, and demographic data. This evaluation was impeded by the lack of patient cooperation. The senior ED staff implemented a secondary emergency screening protocol to refocus on claims of duration of fasting, vital signs, hydration, and mental status, including cooperation, to better determine appropriate treatment and need for additional consultation.

A treatment protocol, established to manage the large numbers of patients, included a finger-stick glucose, encouragement to take oral rehydration treatment (ORT) and/or food, monitoring of vital signs, mental status, and urine output. If ORT were refused or patients appeared too weak then IV fluids were recommended. If IV fluids were refused, close observation occurred along with continuation of encouragement to take the ORT. If prolonged IVs were required, patients would be admitted to the ED Observation Unit. Thereafter, patients would either be admitted to the hospital or discharged to the detention camp physician.

Ninety-five percent of the hunger striking patients claimed to have fasted from food for 3 to 15 days. Very few hunger strikers cooperated with attempts to obtain further history, to evaluate their conditions, or to offer them treatment. Their mental status was considered unreliable. Patients with physical signs of dehydration were placed in the most immediate triage categories. No accurate correlations of severity of physical findings, self-reporting of duration of fasting, and triage levels were observed. No patients claiming to have fasted more than 10 days were triaged into the severe or immediate categories. No pre- and post-hunger strike weight were available and no patients appeared wasted or acutely malnourished. The majority (>60%) were considered appropriate candidates for oral rehydration alone, but only 21% accepted oral rehydration solution; the remainder received intravenous (IV) rehydration.

**Quality of Care**

The ED staff reported an increased workload to maintain what they perceived as quality service. Difficulty in coping was reported in that nurses had to maintain a greater level of diligence for fear the strikers would further harm themselves. Clerical work and record keeping were excessive, and interpreters were required for every level of documentation. A potential security problem, due to the fact that all hunger strikers were under the custody of the Correctional Services Department of Hong Kong, never materialized and no detained hunger strikers were ever formally arrested. All information entered into the Hong Kong computerized central patient records system confirmed that there were no readmissions of any hunger strikers to this hospital or others in Hong Kong. Information obtained from Detention Camp records indicated that few, if any, of the patients treated rejoined the hunger strike.

**Discussion**

Countries receiving large numbers of refugees increasingly need to provide rapid medical care at detention camps and to integrate this care with that of their own health care system [24-31]. With the arrival of hunger strikers in Hong Kong EDs, both
health care providers and hospital authorities were confronted with a new political and humanitarian crisis. A major challenge to the ED staff was how to accurately assess and validate the medical needs of the hunger strikers.

In the PWH study, treatment of the predominantly young and previously healthy male population was rehydration and nutritional support. Laboratory evaluations were either unrevealing (blood glucose) or refused by the patient (urine ketones). It appears that neither urine ketones nor serum electrolytes would have altered the rehydration treatment decisions. Since the "unreliable mental status" findings invalidated the triage categories, the authors suggest that both experience with hunger strike presentations and good clinical judgment are presently the best evaluation and triage tools.

**Pathophysiology Issues**

Clinical understanding of the health consequences of fasting or starvation comes primarily from studying patients with psychiatric illnesses or obese patients who fast to lose weight [32-35]. Depending on the degree and duration of nutritional deprivation, water intake, exercise, and exertion, varying degrees of signs and symptoms will arise. Reports of prolonged voluntary fasting range from 28 to 40 days. In 1980-81, 10 Northern Ireland inmates starved to death after 45-61 days [36]. Early on, lethargy, irritability, and reduced morale may occur [37], and patients will often experience headache, gastric distress, nausea, vomiting, and presyncope or syncope. If there is additional exertion, dehydration and ketosis may occur early, often within the first day. The serum glucose can fall as low as 25 mg%. [37,38]. A number of physical and intellectual skills are expected to deteriorate over the next two weeks. Studies suggest, however, that "even a small number of calories (e.g., 500 Kcal per day) could delay onset of these disabilities and the onset of ketosis" [37]. In the PWH experience, hunger strikers accepted finger-stick glucose voluntarily. Despite claims of prolonged fasting, all finger stick blood glucose levels were within normal limits.

Kalk and Keaton highlight the difficulties of diagnosis of subtle onset of dehydration with minimal thirst at both the clinical and biochemical levels [38-40]. Tissue turgor assessment is considered unreliable. More helpful is presence of postural hypotension, a procedure refused by the hunger strikers in this study. Peel suggests that the most disabling symptoms are presyncopal: dizziness, weakness, and lightheadedness [36]. Some degree of bradycardia and hypotension are recognized in all hunger strikers after relatively short fasting. In one study, orthostatic hypotension was present in all cases by day 20 [36]. Monitoring urine and plasma creatinine levels, ketones, blood glucose, and ECG (to assess starvation-induced low voltage patterns and arrhythmia) are appropriate parameters to follow [39-43]. In the Hong Kong study, attempts to elicit cooperation in obtaining voluntary urine samples were rebuffed and no patients were catheterized.

Deaths are associated with prolonged QT intervals. These QT intervals slowly recover, with sudden death continuing as a risk with re-feeding and fluid volume replacement [44]. When a prior weight is known, transfer to inpatient care is recommended at 10% weight loss in previously lean, healthy individuals to ensure independent medical monitoring [40]. When a prior weight is unknown, a maximum of 10 days hunger strike, or body mass index of less than 16.5 kg/m2 requires monitoring. Major health problems arise at a weight loss of about 18% [36]. Vitamins and thiamine supplementation should be added to IV hydration of confirmed starvation victims. It is recommended that daily fluid intake be maintained at 1.5 liters/day with additional sodium chloride (1.5gms) [36]. Symptomatic hypokalemia has been reported and will worsen with unmonitored re-feeding or ingested glucose [45]. With dehydration, patients lose feelings of both thirst and hunger and are generally not aware of the physiologic alterations caused by the fasting or the risks of restarting foods and fluids after a prolonged fast.

"Thirst strikes" are rare, poorly understood, and difficult to manage [46]. Refusal of fluid for prolonged periods requires powerful behavioral drives to overcome thirst and in one case led to severe dehydration, hypernatremia, and acute pre-renal failure.

Reports of uncertainty in the history of food intake and possible clandestine indulgences of food and fluid reported by detention camp officials could explain the lack of confirmatory clinical parameters. Five hundred seventy six hunger strikers treated in a Malaysian Detention Camp sick bay in 1995 were reported to have always consumed water or Chinese tea throughout the day, with groups striking for 3-4 days, then handing off to another group in "a kind of chain-strike" [23]. All but one agreed to take food after 2-3 days in the camp sick bay. Seven were treated at the local hospital, "not because they were so ill, but because they were under pressure by their leaders" [23]. All were discharged the same day.

Higher than expected rates of depression, anxiety, and post-traumatic stress disorder occur among refugee populations, with
the suggestion that the physical and psychological trauma suffered by many refugees contribute strongly to the appearance of psychopathology in this population [13,47]. Individual vulnerability and coping capacity play a role in the occurrences and severity of acute stress reactions. One study of hospitalized hunger strike detainees showed 77% to be clinically depressed [48]. Detention creates the potential for a “pressure cooker effect” of mounting despair, suspicion, and frustration. This, Silove suggests, is exacerbated by language barriers, isolation, disorientation, and desperation from a sense of being trapped [15]. Birchard cautions clinicians to recognize that hunger strikers may not be rational or sane; they may actually be severely depressed and require desperate measures such as emergency electroconvulsive therapy [48]. The ED triage process must be sensitive enough to recognize that a psychiatric assessment should be done quickly to rule out an underlying mental illness in select patients.

**Legal and Ethical Issues**

Emergency medical practitioners must be aware of options to care for and protect hunger strikers, as defined in guidelines for ethical management based on the Declaration of Tokyo (1975) [49], the British Medical Association (1992) [50], and the Netherlands-based Johannes Wier Foundation for Health and Human Rights (1995) [51]. These support the premise that anyone who rationally and logically decides to starve to death has the right to do so. These guidelines reflect a strong consensus of Western bioethicists, protecting the respect given to a patient’s autonomy. Under no circumstances will therapy be rendered against the will of a competent patient who is judged to be “capable of forming unimpaired and rational judgement concerning...the consequences.” [52]. An exception to this exists when a patient’s illness threatens the direct welfare of others, as would be the case with certain communicable diseases, such as tuberculosis [53].

Before discharge of responsibilities, the guidelines conclude that all hunger strikers should be offered both a physical and psychiatric assessment early in the course of their strike. An assessing senior psychiatrist will interview the striker alone or with an interpreter acceptable to both the striker and to the psychiatrist. The objective is to rule out a major psychiatric disorder that might be playing a role in motivating the hunger strike, or which impairs the stiker’s competence in making decisions regarding his or her life. In addition, a second psychiatrist who is independent both of the first and of the treating institution will provide a second opinion. Statements regarding free will, lack of mental illness, understanding of the risks, offered counseling and access to care, and expressed desire to be or not to be resuscitated (e.g., if they became incapacitated from poor nutrition) will be clearly documented by both psychiatrists [52,53]. Temporary treatment for a “critically ill hunger striker” by an emergency physician unfamiliar with the case is recommended and justified “until such a time that a full assessment can be made” [52].

Two recent legal decisions, however, have challenged these ethical guidelines [53]. Israeli courts ordered the forced feeding of political hunger strikers whose fasting, in the opinion of physicians, had reached a stage where it endangered their lives. Court judgement determined that when there is a conflict between “life and dignity, the preservation of life takes precedence” [53-55]. One patient accepted re-feeding only after a written protest to the court, suggesting that this legal statement accomplished the intent of the protest for the hunger striker. India courts prosecuted and convicted a physician who allowed a hunger striker to die when he did not impose treatment [56].

The Western guidelines, generated primarily in relation to incarcerated political protesters, may require a measure of cross-cultural review and scrutiny when dealing with a refugee or migrant population. In this Hong Kong study, it is possible that patients preferred IV hydration as an additional symbolic statement that supported the importance of their protest. The political protest was enhanced once they could bring their protest to the mass media by actions at the public hospital. For them the most important issue on discharge was to obtain a document to prove they had been treated at PWH. No strikers were pressured to end their fast or had confidences breached to any authorities and no protesters refused return to the Detention Camp.

It has been suggested that the powerful motivations of the strikers come from the “sworn intent to die a slow death in public view unless those in power address the injustice or condition being protested” [57]. This was illustrated at PWH in a subsequent study of boat people admitted with self-inflicted injuries, including bacteremia and pneumothoraces secondary to needle punctures [22].

The PWH ED staff met weekly and were encouraged to voice their opinions and to discuss the medical and political dilemmas at hand. Frequent and open discussion among the ED staff is critical whenever situations like this arise.

Trends suggest that the frequency of complex emergencies will remain high for...
the next decade. More than 60 countries were listed as potential complex emergencies in 1998-99 [58]. Economic collapse in developing countries, especially in central, south and southeast Asia, has rekindled ethno-economic stresses and animosities leading to both voluntary and involuntary migration.

There are numerous limitations placed on the study of hunger strikers. No strikers in the Hong Kong case were pressured to end their fast or had confidences breached to any authorities. The inability to validate duration of hunger, lack of pre- and post-study weights, unreliable mental status, and refusal to allow orthostatic vital signs and urine collection for analysis were major obstacles to evaluation. The merit of this commentary lies, the authors believe, in the characterization of the complex presentation of hunger strikers.

This presentation appears to be more political than clinical. Refugee-related emergencies will increase as refugees and asylum seekers become more desperate in resisting involuntary repatriation. The responses of providers will often reflect both the cultural and functional settings in which these mixed clinical-political patients are found, whether it be a prison, a detention camp sick bay, an ED, or an inpatient unit. The confusing clinical presentations will continue until the political statement has been heard. Further study needs to be done to better define strategies to evaluate and treat patients in these situations.

References
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