

major social movement in the United States, and the fact that public opinion in most other countries also show a 70%+ favorable attitude to our cause indicates this is a human problem that should not be lightly considered.

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### Reply from the President—to the Editor

Dear Norman:

Thank you for sharing your views. I am glad that you took the time to write and tell me where you stand. Knowing your thoughts and ideas about the issues facing our nation is very important to me.

I believe this Administration has made a great deal of progress since I took office over three-and-a-half years ago. I am proud of what we have done to reduce the deficit, expand our economy, improve educational opportunities, and empower hardworking Americans to make the most of their own lives. As we work to build on these accomplishments and to ensure peace and security at home and abroad, I hope you will remain involved.

Sincerely,



Bill Clinton

#### Comment from the Editor:

What a classic example of a "generic letter!"

Be sure to look for our December Special Issue on Death with Dignity.

Norman Goldstein, MD, editor.

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## HMA President's Message

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**John S. Spangler MD**

Thanksgiving is a time for everyone to reflect on the events of this past year. We all have a great responsibility to continue a positive attitude about medical practice. During this last year many physicians have been under a great deal of anxiety and stress from the changing ways of the practice of medicine.

We all need to remember the sacrifices many people have done for us during our training and our post graduate training. Maintaining a stable and happy mental state with all the complex surrounding environment takes a very positive attitude.

With the coming year we hope all physicians could organize as one group to allow positive progress with the management of medicine. Let's hope all of us will be thankful for all we have and work towards patient care.



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## Military Medicine

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### Preparation of the injured patient for aeromedical evacuation: Environment and Physiology

**Benjamin W. Berg, LTC, MC, USA**

Aeromedical evacuation of the injured battlefield soldier has become the primary method of transport for battlefield military casualties since the Korean conflict. The lessons learned in armed conflict have been adapted by civilian evacuation and transport teams. Helicopter evacuation has become a central feature of successful trauma management systems throughout the world. In Hawaii transport for definitive care of patients at U.S. mainland facilities requires transport by fixed wing pressurized aircraft. The U.S. Army provides helicopter Medevac capability for the island of Oahu.

Knowledge of physiologic and environmental factors in the aviation environment is essential to the preparation of the patient for safe evacuation to definitive treatment facilities. The aeromedical environment affords virtually no opportunity for assessment or therapy en-route, so stabilization prior to transport is critical. Physical stabilization of fractures and other injuries, and physiologic stabilization are ideally accomplished prior to evacuation. If stabilization is not possible expedient transport may be the only available option. A brief description of some primary factors influencing safety and preparation of the patient for air evacuation follows:

#### Environmental Factors

Rotary Wing Evacuation - Noise, Vibration and altitude factors.  
Fixed Wing Evacuation - Hypobaric, hypoxic, low humidity and long duration of transport.

Temperature, humidity, and altitude all contribute to the safety profile of a medical evacuation. Interactions with specific injuries, such as burns, inhalation, and penetrating trauma can be anticipated and adverse effects minimized by careful planning and preparation.

#### Physiology

Barometric pressure changes which occur are of paramount importance in the safe evacuation of patients with chest tubes, penetrating thoracic trauma, or trapped gas. All chest tubes should be vented to the ambient air, and all intrathoracic air should be evacuated prior to transport. Trapped gas expansion phenomena in any body cavity can be clinically important. Sinus injuries, maxillofacial trauma, and pulmonary injury with air trapping afford opportunities for expansion of air under hypobaric conditions during evacuation. Preparation for management or prophylactic management prior to transportation is advised when adequate time and capability exist.

Relative hypoxemia is invariably present during air evacuation due to decreased  $PiO_2$  in pressurized aircraft cabins, and during flights at altitude in non-pressurized aircraft. The magnitude of the physiologic effect can be determined by estimation of the resulting arterial  $PaO_2$ . Pulse oximetry during evacuation may allow adequate estimation of responses to oxygen therapy. Maintenance of oxygen delivery to critical organ beds is accomplished by transfusion and maintenance of oxyhemoglobin saturation of greater than 90%.