POSITION PAPER ON MEDICAL GUIDELINES FOR SPACE TOURISM

I. Background

It is anticipated that private companies in the foreseeable future will manufacture space vehicles with a capacity of transporting tourists into low Earth orbit. Although early flights will probably be of short duration, minutes to several hours, there will eventually be what could be called space hotels that could accommodate visitors for days, weeks, or even months. It is expected that many individuals with a taste for adventure or the exotic will enthusiastically accept the personal risks as well as the expense for the experience.

However, because of the stresses of space flight, the effects of microgravity, and limited medical care capability, it becomes imperative that medical guidelines be established. It is our purpose to establish quidelines for use by private businesses, medical providers, and those planning on being a space tourist. Consequently, a Task Force was organized by the Aerospace Medical Association (AsMA) for the purpose of ensuring safety of passengers, fellow passengers, crew, and flight operations. It is the objective of this first meeting to formulate general principles of medical guidelines with the expectation that further meetings will be convened to define them with greater precision.

The Task Force (see attachment for attendees) met on October 11, 2000 in the Home Office in Alexandria, Virginia. The following is a synopsis of its deliberations and recommendations.

II. Stresses of Flight

Because the stresses of flight will depend somewhat on its duration, the Task Force recommended that medical guidelines be designed to accommodate short and long duration space flights. In addition, the requirement for possible emergency ground egress must be taken into account. In general, attention must be given to the following factors.

- a) Stresses associated with aviation. Of particular concern will be acceleration in that commercial space vehicles may impose 3 to 8 + G_z on liftoff with smaller G loads on landing.
- b) The effects of microgravity, space motion sickness, radiation exposure, and psychosocial dysfunction.
- c) The cabin environment including air quality, pressure, temperature, humidity and ventilation.

III. Medical Clearance

Medical clearance for all space passengers is recommended Although the specifics for medical clearance will be addressed at a future Task Force Meeting, there should be

adherence to the following principles.

- a) The passengers must be able to act independently.
- b) The passengers should be free of unstable illness such as congestive heart failure or active Crohns disease.
- c) The stresses of flight must not exacerbate preexisting disease.
- d) There should be no medical condition that may require urgent medical treatment inflight.
- e) There should be no underlying medical condition that has a propensity to cause sudden incapacitation inflight.
- f) There must be reasonable assurance that there are no preexisting diseases which could cause a diversion of resources or cause a flight to abort.

IV. Passenger Education

The Task Force strongly recommends that there be a requirement for passenger education preflight regarding the stresses of flight, health matters, and safety.

V. Recommendations

The above is a synopsis of overarching principles of medical guidelines for space tourists prepared by the AsMA Task Force. It is recommended that this position paper be adopted by Council and that the Task Force reconvene in the next several months to prepare detailed Medical Guidelines for Space Tourism within the framework of this position paper.

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Attch. 1