

# Maryland

# EMMS

# NEWSLETTER

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For All Emergency Medical Care Providers

May 1989

## Surgeon General's Workshop

### Grappling with Problem of Drunk Driving

I am certain that there are no reasonable people who believe that drunk driving should be tolerated, yet people shy away from deeper discussion than, "Isn't it terrible." This observation was made by Surgeon General C. Everett Koop in his closing remarks at a workshop that he convened on drunk driving, in Washington, DC, December 14-16, 1988.

During his eight years as surgeon general, Dr. Koop has held approximately a dozen workshops on such health care topics as organ transplantation, AIDS, child pornography, domestic violence, and the needs of handicapped children and their families. The recommendations of those workshops have been taken seriously by those formulating health care policy.

One would think that drunk driving is a "motherhood and apple pie" issue. But Dr. Koop noted, "Strange as it may seem there are a few people and organizations who would have preferred that we not meet on this subject this week or maybe ever." He remarked that leading representatives from the National Association of Broadcasters (NAB), American Association of Advertising Agencies (AAAA), and Association of National Advertisers (ANA) declined to participate. Two of the representatives (ANA, AAAA), for reasons which the Surgeon General considered "unfair," requested that the workshop be cancelled.

However, the workshop took place and confirmed the message that alcohol contributes to injury and premature death. Perhaps because of this troublesome message, "the messenger was killed" (figuratively speaking)—that is, the workshop received little or no attention in the local and national media (because of pressure/influence of special interest groups?).

During the workshop, 120 individuals from many disciplines across the nation met to formulate "practical recommendations" to health care policy makers to impact on the problem of drunk driving in the United States. Researchers, epidemiologists, physicians, lawyers, judges, law enforcement officers, lay advocates, and others, formed 11 panels on: enforcement, epidemiology, citizen advocacy, treatment, education, advertising and marketing, pricing and availability, injury control, youth and special populations, transportation and alcohol service policies, and judicial and administrative processes.

**Epidemiology.** A blood alcohol level (BAL) should be obtained on all drivers and non-motorists involved in all crashes involving deaths or serious injuries. Furthermore, BALs should be obtained on all patients of appropriate age admitted to hospitals with traumatic injuries.

**Pricing.** There should be equal taxation on all alcoholic beverages. (Since the early 1950s, the excise taxes on a gallon of alcohol in wine [\$1.21] and beer [\$6.44] have remained unchanged. In 1985, the excise tax on a gallon of alcohol in hard liquor was increased from \$21 to \$25.)

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Surgeon General C. Everett Koop

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**Availability.** Prohibit "happy" hours and other reduced-priced promotion programs and strengthen server/seller liability statutes.

**Advertising and Marketing.** Eliminate alcohol advertising and promotion at public events and at places such as college campuses where the majority of the audience is under the drinking age. The health warning labels (soon to be required by law) on alcoholic containers should also be required to appear clearly and conspicuously in all alcohol advertisements.

**Education.** Mandatory alcohol and other drug education should be required from kindergarten through 12th grade. Drinking and driving education should be integrated into health care professional training. The public should be educated about the effects of low levels of impairment and impaired driving performance. (Education is a key component in changing behavior. Noting that the successful 25-year struggle to markedly decrease cigarette use in this country resulted mainly from educational initiatives, Dr. Koop said, "... drinking and driving is high-risk behavior which is also amenable to education and instruction.")

**Injury Control.** Develop national policies to lessen the showing of alcohol consumption on TV and in movies. Conversely, TV and movies should promote positive behaviors such as buckling up and not driving after drinking.

**Law Enforcement and Adjudication.** Drunk driving should be defined as illegal *per se* at a BAL of 0.08. (Under an illegal *per se* statute one does not have to prove physical impairment; the BAL level alone is

sufficient evidence for conviction.) "Hard" license revocation (that is, no exception for hardship, occupation, or other reasons) for a minimum of 90 days should be implemented for those with drunk driving convictions. To detect drunk drivers, innovative techniques (such as passive sensors) should be employed, as well as drug recognition experts using such tests as horizontal gaze nystagmus (see article on page 7).

**Treatment.** Persons who may benefit from treatment/rehabilitation programs and the most effective types of programs must be determined.

The complete recommendations of the various panels from the Surgeon General's Workshop on Drunk Driving will be published this spring and disseminated by Dr. Koop's office to workers throughout the country.

◆ Carl A. Soderstrom, MD

(Dr. Soderstrom was a member of the epidemiology panel at the workshop.)

## Publishing Workshop

The Department of Emergency Health Services at UMBC will present "Demystifying Publishing," a workshop on developing ideas and experiences in EMS for publication in journals, books, and newspapers, on June 27 and 28.

Suzanne Hall, RN, MN, author and consultant, and Nancy Peterson, JEMS acquisitions editor, will discuss such topics as the writing marketplace, the publishing process, and ways to avoid writer's block.

The cost of the 2-day conference is \$175. For information, contact the UMBC Office of Continuing Education, 301-455-2336.



National  
Study  
Center

An international conference on improving emergency health care systems in developing countries has been scheduled for August 15-18 at the Crystal City Hyatt Regency Hotel in Washington, DC. Dr. R Adams Cowley, director of MIEMSS and of the National Study Center, joins a distinguished panel of international EMS experts as they define the role of emergency health care service in the coming decade.

This conference is organized under the sponsorship of the US Department of Health and Human Services, Public Health Services; Health Resources and Service Administration; the US Department of Transportation, National Highway Traffic Safety Administration; and World Health Organization/Pan American Health Organization; it is being held in cooperation with the United Nations Children's Fund and the United Nations Disaster Relief Office. Attendees are expected from Europe, the Pacific Islands and Asia, South America, and North Africa. Faculty consists of internationally recognized leaders in trauma and emergency health care from more than a dozen participating countries.

For a brochure and additional information, call Susan Kaskie at 1-800-872-2820 or 301-328-7231 in the Baltimore area.







# Safety Guidelines For Personnel Approaching The New 365 N-1 Dauphin 2

## Introduction

In April 1989, the Maryland State Police (MSP) Aviation Division began a transition from Bell Jet Ranger helicopters to larger helicopters — the Aerospatiale Dauphin 2.

This bulletin, written by the MSP Aviation Division, consists of commonly asked questions pertaining to helicopter operations, landing zones, and medical information. For additional copies, please call 301-328-3248 (MIEMSS Editorial Office).

## General Helicopter Operations

The Aerospatiale Dauphin 2 is a twin-engine, four-bladed helicopter capable of performing the multi-mission requirements of the State of Maryland.

### 1. How fast does the Dauphin fly?

The maximum speed of the Dauphin 2 is 196 mph. However, with the equipment we will be carrying, our speed is expected to be in the range of 145 mph.

### 2. How will the average response time be affected?

Initially there may be an additional few minutes to get airborne; however, with speeds of nearly 40 mph faster than the Jet Ranger, our response time will decrease depending on the distances being flown.

Remember that helicopter response time can be greatly reduced if the request for helicopter response is made at the same time that your prehospital treatment begins.

### 3. What will the weather considerations be with the Dauphin?

The weather minimums for the Dauphin will remain the same as for the Jet Ranger. Day, 800-foot ceiling, 2-mile visibility; night, 1000-foot ceiling, 3-mile visibility, non-icing conditions.

### 4. What is the quantity and type of fuel used?

Maximum fuel capacity is 306 gallons. The type is jet fuel (A, B, JP-4, JP-5).

### 5. Where is the fuel located on the ship?

There are five, elastomercoated polyester, bladder-type fuel cells in the aircraft. They are located beneath the cabin and baggage hold floors.

### 6. What on-board fire suppression system does the Dauphin have?

The Dauphin 2 has a system of sensors and warning lights throughout the ship to monitor fires. Each engine has a pilot-activated fire extinguisher, charged with freon, that can be utilized in flight.

### 7. What door handles and emergency controls should we be aware of?

On the inside post of each door is a red "door jettison" latch which releases the door pins for emergency evacuation. These are to be used only in an emergency.

### 8. How can the aircraft be used in aerial rescues?

The Dauphin 2 is equipped with a Breeze BL 20200 electric hoist, with 245 feet of stainless steel, spin resistant cable and billy pugh net. The maximum weight allowed is 600 pounds, and it has a retraction rate of between 0 and 200, depending upon the weight on the cable. This configuration enables the crew to hoist a victim directly into the aircraft.

### 9. How will communications be made with the aircraft?

The Dauphin has been designed with the same Wulfsburg radio package as the current fleet.

### 10. When approaching the ship, what areas should be avoided?

When approaching any running aircraft, you should approach from the front, either with a member of the flight crew, or after you have made eye-to-eye contact with the pilot and he has motioned for you to continue. Always walk, do not run.

Approach and depart the aircraft in a semi-crouched position until you are next to the ship; then you may stand erect. If for some reason, you become disabled, lie flat on the ground immediately and wait for somebody to assist you and take you away from the aircraft.

The unique tail-rotor, or "fenestron," was designed for safety. Although the tail-rotor is not as exposed as the traditional type, it is still dangerous, and the rear of the aircraft should be avoided at all times.

### 11. What are the absolute "don'ts" pertaining to the Dauphin?

DON'T run near the aircraft.

DON'T walk near the tail boom or fenestron.

DON'T shine bright lights at the aircraft at any time.

DON'T stand in the landing zone attempting to guide the aircraft.

DON'T assume anything. If you don't know, ASK.

## Landing Zones

### 1. What should be considered (that is, size, flares, hard surface/soft surface) when setting up the landing site for the Dauphin?

**SIZE:** The Dauphin helicopter basically requires a clear area approximately 60 feet by 60 feet to land, along with a path reasonably clear (of high obstructions) for approaches and

departures. This is variable and may change according to wind direction and speed, aircraft weight, temperature, humidity, etc. Therefore, the pilot may elect to change the landing zone because of varying conditions.

**SURFACE:** One major difference between the Jet Ranger and the Dauphin is the tricycle retractable landing gear, which is suitable for landing on all surfaces except for extremely icy roadways (untreated) and extremely muddy fields. Again, the pilot will use his discretion to decide whether or not to land.

**FLARES:** The flare is used only to indicate to the flight crew the desired landing area. Flares are most helpful at night; however, they are not a requirement to land the aircraft. If the flight crew has established communications with the appropriate agency and if the landing zone is obvious (for example, a closed portion of highway, a ballfield, a parking lot, etc.), check with the flight crew to determine if flares are needed.

If flares are requested or are lit prior to arrival of the aircraft, use a *maximum of four flares* to form a square. "Circles" of flares are discouraged since they affect the crew's night vision and are also a fire hazard.

**CAUTION:** With the increased weight of the aircraft (9,038 pounds), there is a great increase in the rotor wash. Flares, roadway debris, hats, dirt, snow, etc., will go flying when the aircraft is near the ground. Never hold flares when the aircraft is approaching.

2. What is expected from the personnel handling the landing site?

After the aircraft has landed, the security and safety of the landing zone are the priorities. This may mean more than the mere presence of a fire department vehicle. There should always be a guard standing approximately 50 feet behind the aircraft to keep people away from the tail area. Depending on the landing zone, personnel may be required to stand on either side of the aircraft to keep vehicles and pedestrians away.

## Medical Information

1. How many patients can the Dauphin carry and are there any weight restrictions?

The Dauphin has been designed to carry two patients in a side-by-side configuration.

The patient litters have been designed to accommodate patients weighing up to 500 pounds.

2. Is the patient loading procedure different?

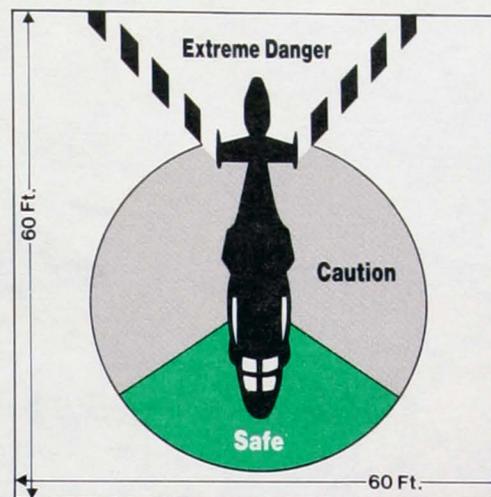
**LOADING:** Load the primary patient on the same side as the Jet Ranger (the co-pilot or left side of the aircraft); however, load the primary patient **HEAD FIRST** directly into the aircraft.

The floor of the Dauphin has been designed to accept the new helicopter litter at a 90-degree angle and guide it into the correct position. Load the secondary patient on the pilot side of the helicopter (through the sliding door) on a helicopter litter. This litter will be guided through on a slight angle to the front of the helicopter.

In two-patient loads, load the secondary patient first, and the primary patient second.

**SPECIAL CONSIDERATION:** When a "thumper" is used, place the compression arm on the patient's **LEFT SIDE** for transport in the Dauphin. It does not matter if one patient is transferred or two. The compression area must be placed on the **PATIENT'S LEFT SIDE**.

**REMINDER:** Combative or potentially combative patients can be transported in *all helicopters*, provided proper immobilization occurs prior to transfer.



3. What medical equipment does the Dauphin carry?

All Dauphin are equipped with:

- 2 Life-stat 100 electronic blood pressure monitors
- 2 Life-pak 5 ECG monitors
- 1 Life-pak 5 ECG recorder and defibrillator
- 1 Criticare 503 pulse oximeter
- 1 Ohmeda microspan 515 apnea monitor
- 1 Ohmeda logic 7 ventilator
- 2 MTP mini-infusion pumps
- 1 2200-liter on-board oxygen system for liter flow, demand valve, ambu bag, "thumper," and humidified oxygen delivery
- 1 Jumbo "D" portable oxygen cylinder
- 1 Thomas "advanced life support" trauma pack
- 1 on-board suction unit
- 1 Impact 308 portable suction unit
- 1 adult MAST trousers
- 1 pediatric MAST trousers
- 1 set Nec-Lok cervical collars
- Airway management equipment
- ALS medications
- Miscellaneous bandaging and supplies

4. Describe the on-board oxygen system.

A 2200-liter KEVLAR composite oxygen bottle is permanently mounted in the baggage compartment of the Dauphin 2 aircraft. It feeds three oxygen outlets by a 50 psi high pressure line, much like the ambulances and medic units you are currently using.

The bottle can be accessed by the baggage compartment door located on the pilot side of the aircraft just aft of the sliding door. This bottle will be filled from a portable oxygen supply tank with a hose which connects to the trans-fill port located on the co-pilot side of the aircraft just aft of the patient loading door.

5. Will all MSP medics be EMT-Paramedics?

By the fall of 1989, Aviation Division medics on board all MSP aircraft will be Nationally Registered, Maryland certified EMT-Paramedics.

## For Further Information

The information provided in this bulletin is intended as a reference for MSP helicopter operations.

For further information or to arrange for a demonstration of the aircraft, please contact the MSP Aviation Division, Training Section (301-391-0700). To schedule a hospital inservice on patient packaging, call MIEMSS (301-328-3930).



## BELL JET RANGER



## AEROSPATIALE DAUPHIN 2

### FACTS & FIGURES

Maximum overall length	39 feet, 1 inch	44 feet, 4 inches
Maximum gross weight	3200 pounds	9038 pounds
Power plants	(1) 250-C20B turbine 317 shp	(2) Arriel 1C1 turbines 724 shp each
Maximum air speed	140 mph	196 mph
Fuel quantity and range (w/30 min response)	76 gallons, 300 miles 91 gallons, 360 miles	306 gallons, 600 miles
Rotor blades	2	4
Landing gear	skids	retractable tricycle
Pilots (Med-Evac configuration)	1	1 or 2
IFR certified	no	yes (single pilot)
Patients	one critical max. patient weight: 250 pounds access: waist to head	two critical max. patient weight: 500 pounds access: full body
Paramedics	1	1 or 2
Defibrillator	no	yes
Aerial rescue	yes: 50 foot rope, fixed length, billy pugh net	yes: 245 foot retractable steel cable, billy pugh net and stokes
Nightsun	yes	yes
Forward looking infra-red device (FLIR)	no	yes

## The Eyes Tell All

The eyes have long been considered a "window to the body" by members of the medical profession. The eyes have much to tell about what's going on inside the human body, especially as it relates to the health of the person.

In the last two decades the law enforcement community, in search of better techniques to detect drunk and drugged drivers, has begun utilizing certain eye examinations to detect intoxication by alcohol and many drugs.

In the early 1970s officers of the Los Angeles Police Department experimented with various field sobriety tests to detect drivers who were under the influence of alcohol. After closely examining many hundreds of suspects and consulting members of the medical community, they were able to determine that a simple technique proved very successful in detecting users of not only alcohol but other depressant drugs such as barbiturates. The name of this examination was Horizontal Gaze Nystagmus.

"Nystagmus" is a medical term defined as an involuntary jerking of the eyes. Impairment by certain drugs apparently affects the central nervous system so that the phenomenon becomes distinct and clearly visible to the observer. Nystagmus is also present in medical conditions not associated with substance abuse. To test for nystagmus, it is only necessary to have a person concentrate on a stimulus placed approximately 12-15 inches in front of his/her face and follow the stimulus as it is moved back and forth. If the person is sober, his/her eyes will move quite smoothly. If the person is under the influence of alcohol or some other drugs, his/her eyes will bounce and twitch or jerk continuously as they attempt to follow the slowly moving stimulus.

Physicians frequently use the nystagmus examination as a diagnostic tool for several medical disorders, including the presence of brain tumors or disease and inner ear problems. The presence of nystagmus in that context could indicate a serious problem. The use of nystagmus as a tool to detect impaired drivers is somewhat similar.

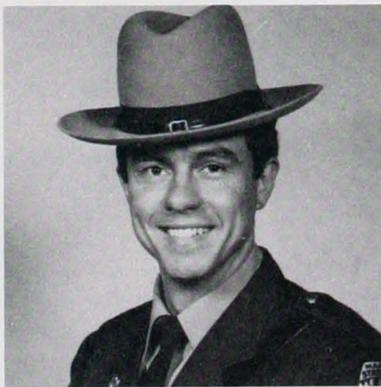
Horizontal Gaze Nystagmus is a very reliable field sobriety test in individuals suspected of driving while

intoxicated. In research studies sponsored by the National Highway Traffic Safety Administration (NHTSA), it was nearly 80 percent effective in discriminating between suspects with blood alcohol concentration (BAC) above 0.10 percent and those below 0.10 percent. The higher the BAC, the more distinct the nystagmus becomes.

In a similar examination called Vertical Nystagmus, a person must follow a stimulus with his/her eyes as it is moved vertically in front of his/her face. This type of nystagmus can be seen in persons who are extremely intoxicated.

In addition to drugs such as alcohol and barbiturates, tranquilizers such as Valium and Xanax will also cause this effect. PCP, a very powerful drug, will produce very distinct nystagmus, both horizontally and vertically. In fact, the intoxicating effects of this drug are so severe, the nystagmus may sometimes be noticed without the subject following a stimulus, or the effect may begin as soon as the person focuses on the stimulus. Inhalant-type substances such as Toluene, gasoline, and airplane glue will also cause a similar effect.

NHTSA, in cooperation with the Los Angeles Police Department, recently has begun pilot testing a systematic drug evaluation and classification process aimed at enabling



*The DWI Enforcement Coordinator for the Maryland State Police Field Operations Bureau, First Sergeant Bill Tower is also a certified Drug Recognition Expert by the Los Angeles Police Department and the California Highway Patrol and is a Master DWI Instructor for the National Highway Traffic Safety Administration. He has trained more than 6,000 police officers, prosecutors, and judges in the detection of drunk and drugged drivers.*

police officers to detect drugged drivers. In addition to horizontal and vertical nystagmus, several other eye examinations provide excellent evidence of drug impairment.

Pupillary size and reaction to light have proven to be quite revealing as indicators of drug influence. Normally pupil size will vary depending on the degree of light to which the eyes are exposed. Generally, as the available light brightens, the pupils constrict or become smaller. As the light darkens, the pupils enlarge or dilate. This is an automatic response that protects the eye from bright light yet allows as much light as possible into the eyes in a darkened condition so that the person is able to see. Some drugs affect not only the size of the pupils, but their reaction to varying light conditions.

When impairment is due to stimulant drugs such as cocaine or "crack," amphetamines, and methamphetamine or "crank," the pupils dilate well above normal and remain enlarged even if a bright light is shone directly into the person's eyes. This same effect occurs with hallucinogenic drugs such as LSD, peyote, and psilocybin mushrooms. This symptom may also be observed in persons impaired by marijuana.

The opposite effect of constricted pupils is evident when a person is under the influence of most narcotic/analgesic drugs such as heroin, morphine, codeine, or Demerol. When a person is impaired by these drugs, the pupils of their eyes will remain constricted even in near total darkness.

Bloodshot, watery eyes have been traditionally associated with alcohol intoxication. However, this condition may also appear with other depressant drugs and even inhalants. Marijuana use will cause a severe reddening of the conjunctiva or white portion of the eyes, which is much more distinct than that of other drugs.

Although the eyes provide considerable evidence regarding a person's impairment by alcohol or other drugs, these examinations are only part of a thorough examination conducted by police officers in DWI (drinking while intoxicated) cases. The use of these tests originated in California but have spread across the country. Police officers in Maryland and surrounding states are now being trained in these advanced techniques.

◆ *First Sergeant Bill Tower*

## New Appointments, Changes at MIEMSS

Recent appointments to the MIEMSS staff include the following:

■ Leonard T. King recently joined MIEMSS as assistant to the Director of MIEMSS. With more than 30 years of both volunteer and career experience in the fire, rescue, and ambulance services, Mr. King has been a BLS ambulance provider, firefighter, training officer, chief officer, and administrator. He is a past president of the Maryland State Firemen's Association, past member of the Governor's Emergency Management Board, and currently serves on the Maryland Instructors Certification Review Board and the Emergency Assistance Trust Fund Board of Review. Mr. King, who is assisting the Director of MIEMSS as liaison to field providers and their organizations for information flow regarding policies and directions, special task force studies, and information retrieval and distribution, can be reached at 301-328-5085.

■ Region III has a new assistant administrator: Beth Nachbar was appointed to her new role on March 27. Prior to coming to MIEMSS, Beth was business administrator for Manheim Township Ambulance Company in Lancaster, Pennsylvania and volunteer CRT in Montgomery County.

■ Since December 1988, Derek B. Yarmis has been the Region V

assistant administrator. A graduate of UMBC with a BS degree in emergency health services, Mr. Yarmis has been a CRT for 5 years at the Liberty Road Volunteer Fire Company and last year completed a 6-month internship in the MIEMSS Region I Office.

In addition, several MIEMSS staff have new titles.

■ A title change (but no change in role or responsibilities) was announced earlier this year for Ameen I. Ramzy, MD. The position that Dr. Ramzy holds is now titled "Director of Field Medical Services." This is the same title referring to Dr. Ramzy's position in the 1987 legislation creating the Maryland Med-Evac Helicopter Advisory Committee. Dr. Ramzy remains in the same role at MIEMSS without any changes in responsibility, continuing to work closely with field providers and Shock Trauma clinical surgical programs. Dr. Cowley retains the title "EMS Director," as specified in the 1977 legislation delineating the duties of the MIEMSS director.

■ On March 30, Peggy Trimble was appointed acting executive director of MIEMSS. This position encompasses both field and clinical components of the system. Prior to this appointment, Ms. Trimble was the director of EMS nursing and specialty care. Her career experience includes 22 years at MIEMSS: clinical practice in trauma, burns, pediatric, hyperbaric, aviation, and military areas. She is a doctoral candidate in policy sciences (health

concentration) at the University of Maryland Baltimore County, and holds MA and BS degrees in health care administration and nursing, respectively.

■ Mary Beachley, MIEMSS trauma nurse coordinator, has been appointed acting director of EMS nursing and specialty care. Ms. Beachley has worked for MIEMSS since 1985. Prior to that, she worked as assistant director of nursing for critical care at Washington County Hospital.

■ Within the EMS Nursing and Specialty Care Department, Judy Bobb has taken on the management of the education component of nursing. She will concentrate on needs assessment, scheduling, and evaluation of existing programs as well as the development of new programs. Ms. Bobb is a graduate of the trauma/critical care master's degree program at the University of Maryland School of Nursing and has worked for MIEMSS since 1975.

■ In order to maximize manpower resources within Field Operations, Ken Young and George Smith have been reassigned to the office of prehospital training and certification. Mr. Young's new responsibilities will include quality assurance monitoring of training programs, the Maryland Ambulance Information System, and disaster planning. Mr. Smith is responsible for information management of routine operations in the testing and certification office.

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