



Objectives

- Be prepared to make the decision
- Awareness of hazardous attitudes and their antidotes.
- Define fitness for flight terms.
- Recognize and correct for physiological factors that affect flight fitness.

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Overview

- Aeronautical Decision Making
- Hazardous Attitudes
- ADM for Balloonists
- Fitness Physiology for Flight
- Risk Management

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Aeronautical Decision Making

- Pilot Behavior / Human Error is #1 factor in accidents, not mechanical malfunction.
- Good Aeronautical Decision Making (ADM) is necessary to prevent human error.

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Aeronautical Decision Making (ADM)

- ADM is defined as
 - A systematic approach to the mental process used by pilots to consistently determine the best course of action for a given set of circumstances.

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ADM steps are:

- Identify personal attitudes that are hazardous to safe flight.
- Learn behavior modification techniques.
- Learn how to recognize and cope with stress.
- Use all available resources.
- Develop risk assessment skills.
- Evaluate the effectiveness of one's ADM skills.

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Hazardous Attitudes

- Antiauthority (don't tell me what to do)
- Impulsivity (doing something quickly)
- Invulnerability (it won't happen to me)
- Macho (I can do it)
- Resignation (what's the use!)

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Hazardous Attitudes (1 of 2)

- Antiauthority (don't tell me what to do)
 - Antidote: follow the rules, they are usually right
- Impulsivity (doing something quickly)
 - Antidote: not so fast, think first
- Invulnerability (it won't happen to me)
 - Antidote: it could happen to me.

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Hazardous Attitudes (2 of 2)

- Macho (I can do it)
 - Antidote: taking chances is foolish
- Resignation (what's the use!)
 - Antidote: I'm not helpless.
I can make a difference

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Classic behavioral traps for pilots

- Experienced pilots try to:
 - Complete a flight as planned
 - Please passengers
 - Meet schedules
 - Demonstrate the "right stuff"
- The drive to demonstrate the "right stuff"
 - Can lead to practices that are dangerous, illegal, and lead to mishaps

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ADM for Balloonists Peer Pressure



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ADM for Balloonists Peer Pressure

- I'm as good a pilot.
 - Don't get trapped.
- Watch those around you.
 - Look at examples, good and bad.
- Should you be the first off?
 - Do you know the area?
 - Are you comfortable?

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ADM for Balloonists The \$\$\$ Factor

- Got to make the rent.
 - Remember one Ah-Shit.
- Fiesta/Sponsor Pressures.
 - Often same pressures as the \$ Factor.
 - Misconceptions
- Passengers, Age, Condition, etc.

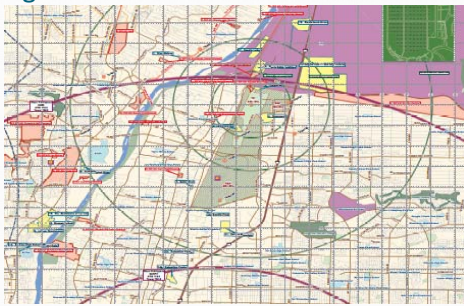
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ADM for Balloonists The Unexpected

- Planning Ahead.
- Talk to Others.
 - Conditions, Landowners etc.
- Learn From Mistakes.
 - Hanger flying.
- Practice, Practice, Practice.
- Evaluate Your Abilities.

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ADM for Balloonists Using Available Resources



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ADM for Balloonists Flight Planning

- Flight Path.
- Using Charts and Maps.
- What Airspace are you in?
- Know the Terrain and Available Landing Sites.
- Land Owners.

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ADM for Balloonists The Weather Factor



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ADM for Balloonists The Weather Factor

- Get Forecasts from many sources.
- Look Around you.
 - Topography and Terrain.
 - Understand Small Scale Conditions.
- Listen to Other Pilots.
 - Locals Know the Area.

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ADM for Balloonists Fuel Management



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ADM for Balloonists Fuel Management

- Preflight.
 - Full
 - pressurized
- Tank Swapping.
 - It is a Distraction
- The Unexpected.
 - Flame out, Fuel leak.
 - Practice.
- Post Flight.

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ADM for Balloonists Situation Awareness



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ADM for Balloonists Situation Awareness

- What is Around You?
- Changing Conditions.
- Look Out Below.
- Deal with Distractions.
 - Passengers.
 - The Radio.
 - The Chase Crew.
 - Your Spouse.



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Your Physical Condition



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Fatigue

- Effects
 - Slows reaction time
 - More forgetful
 - Cross-check breaks down
 - Lack of patience
 - Neglects relevant cues
 - Decreases attention span
 - Increases simple mistakes



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Fatigue

- Causes
 - Sleep loss
 - Is additive
 - Leads to increased daytime sleepiness
 - Circadian rhythm disruption
 - Disruption of either Two stages of sleep
 - NREM (Non-Rapid Eye Movement) sleep
 - REM (Rapid Eye Movement) sleep

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Fatigue

- Factors
 - Prior sleep and wakefulness
 - Age
 - Medical Conditions
 - Medication
 - Alcohol
 - Environmental/work conditions
 - Circadian phase

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Fatigue

- Preventive Strategies
 - Sleep scheduling and quantity
 - Both at home and on the road
 - Strategic napping
 - Up to 2 hours can improve alertness
 - Limit naps to 45 minutes or less
 - Some is better than none
 - Good sleep habits
 - Sleep time sacred
 - Avoid alcohol or caffeine before bed
 - Exercise and eat a balanced diet

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Stress

- The body's response to physical and psychological demands
 - Blood sugar, heart rate, respiration, blood pressure and perspiration all increase
- Acute(short term)
 - Immediate threat perceived as danger(real or perceived)
- Chronic(long term)
 - May exceed the ability to cope
 - Financial/work/medical/relationship problems

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Alcohol



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Alcohol

- Even small amounts can adversely affect judgment and decision-making ability
- Alcohol can render pilot more susceptible to disorientation and hypoxia
- Rules:
 - 8 hours bottle to throttle
 - Not under the influence
 - Less than 0.04 blood level

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“I’m SAFE” Checklist

- I = Illness
- M = Medication
- S = Stress
- A = Alcohol
- F = Fatigue
- E = Eating

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Risk Management

- Evaluating the following elements to reduce risks associated with flights:
 - Pilot
 - Currency/Proficiency
 - I’M SAFE
 - Training
 - Aircraft
 - Performance
 - Equipment
 - Fuel

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Risk Elements

- Environment
 - Weather
 - Takeoff and Landing areas
 - Traffic
 - Obstacles
- Operation
 - Purpose
 - Schedule
 - Passengers

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Decision-Making Process

- Process
 - Identification
 - Assessments
 - Analysis of controls
 - Make the Decision
 - Use the controls
 - Monitor the results

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ADM for Balloonists Decision Making

- YOU MAKE IT, NO ONE ELSE.
- Don’t Bend to Pressure.
- Know When to Call it.
 - How long after Sunrise.
 - How close to Sunset
 - Compete/Not compete
 - Long/Short Flight

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Review

- Aeronautical Decision Making
- ADM for Balloonists
- Fitness Physiology for Flight
- Risk Management
- Decision Making Process

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