Issue 2 May 2016

ISO 9001:2008 Certified

AVIATION SAFETY BULLETIN

A Publication of:

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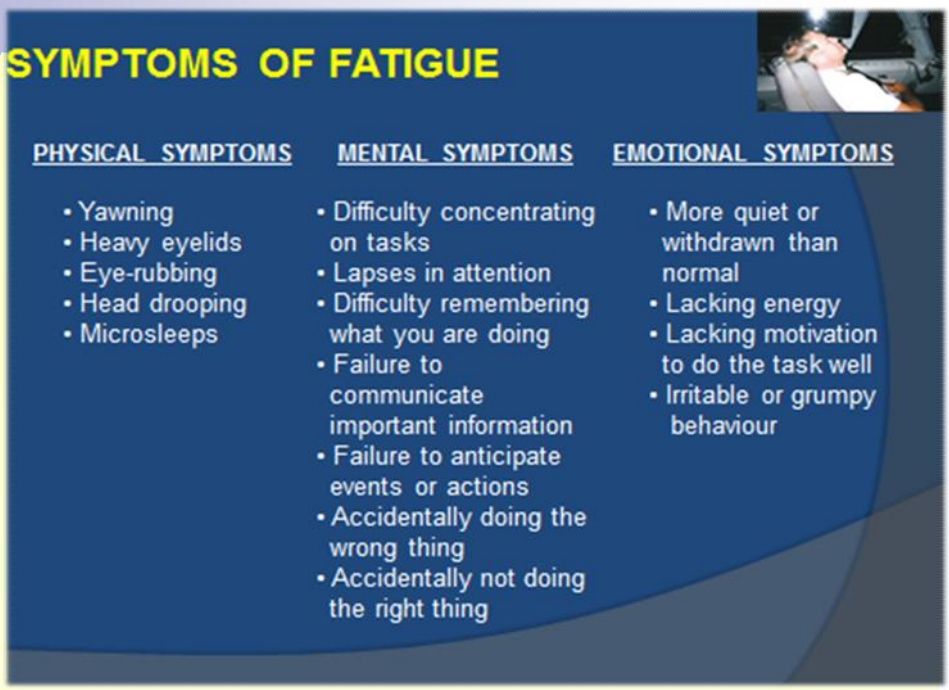
FATIGUE MANAGEMENT

A WORKER'S GUIDE

WHAT IS FATIGUE?

Fatigue is more than feeling tired and drowsy. In a work context, fatigue is a state of mental and/or physical exhaustion that reduces a person's ability to perform work safely and effectively.

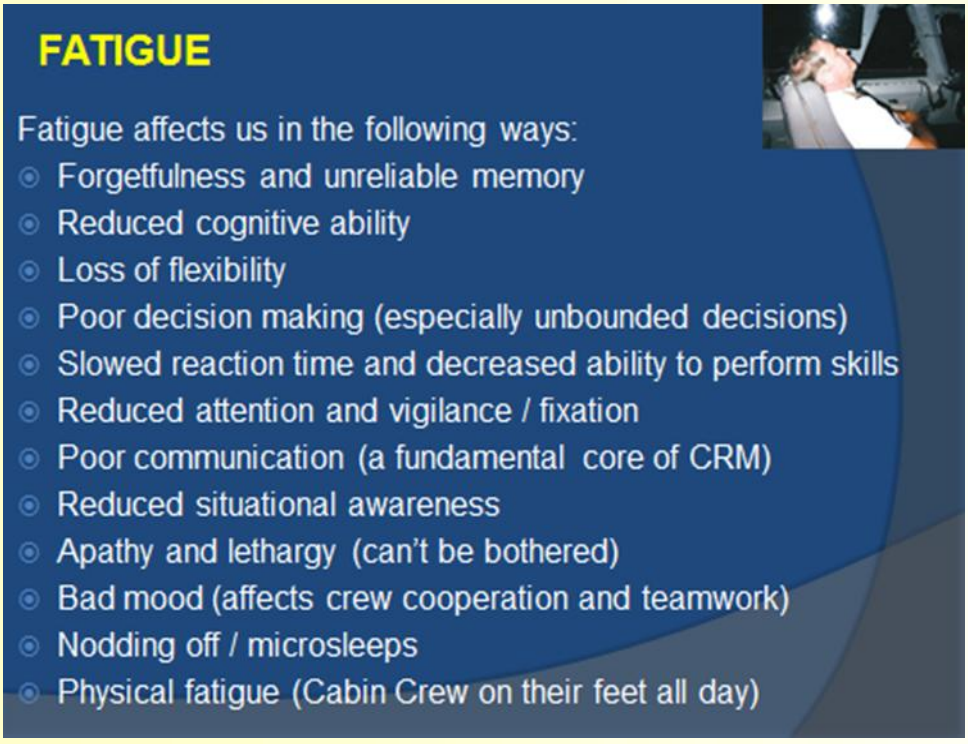
It can occur because of prolonged or intense mental or physical activity, sleep loss and/or disruption of the internal body clock.



WHAT CAUSES FATIGUE?

Fatigue can be caused by work related or non-work related factors or a combination of both.

Work related causes of fatigue include excessively long shifts, not enough time to recover between shifts and blocks of shifts, very strenuous jobs and long commuting times. An example of non-work related fatigue would be poor quality sleep due to street noise or family demands.



THE BODY CLOCK

Most people are day-orientated meaning they are most alert and productive in the daytime and sleep at night. The circadian rhythms (the body clock) cause regular variations in individual body and mental functions repeated approximately every 24 hours. These rhythms regulate sleeping patterns, body temperature, heart rate, hormone levels, digestion and many other functions.

These rhythms influence job performance and quality of sleep. Most of the body's basic functions show maximum activity by day and minimum activity by night. The body rhythms affect the behavior, alertness, reaction times and mental capacity of people to varying degrees.

Fatigue may increase the risk of incidents because of a lack of alertness. Fatigue may result in a slower reaction to signals or situations and affect the ability to make good decisions, particularly when:

- operating fixed or mobile plant including driving vehicles;
- undertaking critical tasks that require a high level of concentration;
- Undertaking night or shift work when a person would ordinarily be sleeping.

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FATIGUE MANAGEMENT cont...

A WORKER'S GUIDE

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Employers must ensure, so far as is reasonably practicable, the health and safety of workers while they are at work. This means if fatigue is identified as causing a risk to work health and safety, then suitable control measures should be implemented in consultation with workers to eliminate or minimise the risks.

YOUR RESPONSIBILITY AS A WORKER

Workers have a duty to take reasonable care for their own safety and health and that their acts or omissions don't adversely affect the health or safety of others. Workers must also comply with any reasonable instruction and cooperate with any reasonable policy or procedure relating to fatigue at the workplace, for example fitness for work policies and policies regarding second jobs.

To reduce the risk of being involved in a work incident caused by fatigue, you should:

- comply with your organisation's policies and procedures relating to fatigue;
- understand your sleep, rest and recovery needs and obtain adequate rest and sleep away from work seek medical advice and assistance if you have or are concerned about a health condition that affects your sleep and/or causes fatigue;
- assess your own fitness for work before commencing work;
- monitor your level of alertness and concentration while you are at work look out for signs of fatigue in the people you work with;
- in consultation with your supervisor, take steps to manage fatigue, for example take a break or short nap (night shift), maintain hydration (drink water), do some stretching or physical exercise; adjust the work environment (lighting, temperature);
- talk to your supervisor or manager if you foresee or experience being impaired by fatigue likely to create a health and safety risk e.g. because of a health condition, excessive work demands or personal circumstances;
- assess your fatigue levels after work and take suitable commuting and accommodation options (e.g. avoiding driving if fatigued).

Individuals will make their own choices over what fatigue management scheme they elect to employ, however it is important for us to recognise the criticality of fatigue and to do our best to enhance awareness of:

- Fatigue effects;
- Behavioral signs of fatigue; and
- Fatigue countermeasures.

We hope trying the things suggested in this article will lead you to a happier and healthier life with less stress and less fatigue. ▌

Article compiled by GSD

Source: info@safeworkaustralia.gov.au

Info@ FAA for aviation professionals.

FIJI AIRWAYS A330 -TOUCH SCREEN FLIGHT TRAINING DEVICE (MFTD)

FIJI AIRWAYS MEETS THE FAA LEVEL 4/ EASA FTD LEVEL 1

"Milestone in Fiji's Aviation History"

The Fiji Airways Airbus A330 Touch Screen Flight Training Device (FTD) which also has the capability to be utilized for the training of maintenance engineering students (MFTD - **M**aintenance **F**light **T**raining **D**evice) manufactured by ECA Faros, is ***the first of its kind for Fiji's Aviation Industry***. This training device is a state of the art, high fidelity flight training tool that will provide exceptional value in addressing the training needs of Fiji Airways in terms of the A330 pilots and if required, maintenance engineers. Based on the manufacturer's proven Airbus A330 FTD and MTD software, the Touch Screen FTD provides the A330 pilot or maintenance engineering student with a very realistic and functionally accurate training platform whilst at the same time providing Fiji Airways with a cost effective alternative to other types of up-scale FTDs that are only available abroad.

One of the strengths of the Touch Screen FTD is the quality of training events that can be accomplished using its highly interactive, free-play capabilities. Virtually every training category not involving manual flight can be accomplished using the FTD. It is highly interactive and allows training in a wide range of instructional applications enabling the flight training department to significantly alter the training foot print permitting a reduction in the number of hours the student must be trained in the more expensive Full Flight Simulator.

Flight Instructors and pilots alike will benefit from the high degree of flexibility this virtual, free-play simulation environment affords them. The flexibility of the system allows instructors to change the focus of the session, on-the-fly (immediately), to enable problem areas to be addressed as they occur thus increasing the value of the training event. Pilots can use the system to brush up on the Flight Management Guidance System (FMGS) operation, review the functionality of the system, or review any error committed in a Full Flight Simulator Session.

The system has been installed at the Fiji Airways Flight Operations Centre. The Acceptance Testing was conducted by Fiji Airways from the 3rd - 9th February 2016, with Captain Harnek Singh, Fiji Airways A330 Flight Captain, as the Lead Acceptance Testing Pilot assisted by the very experienced Mr. Gary Watts who is Principal Technical Officer, Qantas Simulator Fidelity & Assurance at the Qantas Flight Training Division and Mr. Adrian Yee, the Flight Operations Training Coordinator. Although the FTD is capable of supporting both pilot and maintenance training, the emphasis of the acceptance testing was on the pilot training capabilities of the system.

The Civil Aviation Authority of Fiji (CAAF) team conducted its evaluation of the MFTD on the 16th of March 2016 with the Fiji Airways Team Acceptance Test team. The CAAF Team consisted of Captain Jimmy N. Sassen (Flight Operations Inspector International), Mr. Robert Browne (Airworthiness Maintenance Inspector), Captain Viliame Niumataiwalu (Senior Flight Operations Inspector Domestic) and Captain Matereti W Tuisue (Senior Flight Operations Inspector International).

This evaluation, in conformity with the Qantas A330 Post Maintenance Assessment Profile, was conducted in accordance with the FAA 14 CRF Part 60 for FTD Level 4 in association with the following documents:

- CASA Advisory Circular (AC 60-4(0) - Reference Civil Aviation Safety Regulation 1998 (CASR 1998) Part 60 Synthetic Training Devices,
- The document based on the UKCAA A330 Rolls Royce Check Flight Schedule, and
- CAAF Standards Document - Synthetic Flight Trainers (Aeroplanes) and Flight Simulators (Aeroplanes).

At the conclusion of the evaluation, the CAAF Team was satisfied that the MFTD complied with the Qualification Level 4 requirements prescribed in the FAA 14 CRF Part 60 Appendix B Qualification Performance Standards for Airplane Flight Training Devices and as such Fiji Airways was issued with an MFTD Qualification Certificate (Number FJ-1/01) for the A330 Flight Training Device on the 01st of April 2016, a milestone in Fiji's Aviation History. ■

(Article by ASD)

THE SIMPLE REASON PLANES HAVE WINGLETS

Ever look out the window of a plane or watch as it pulls up to the gate?

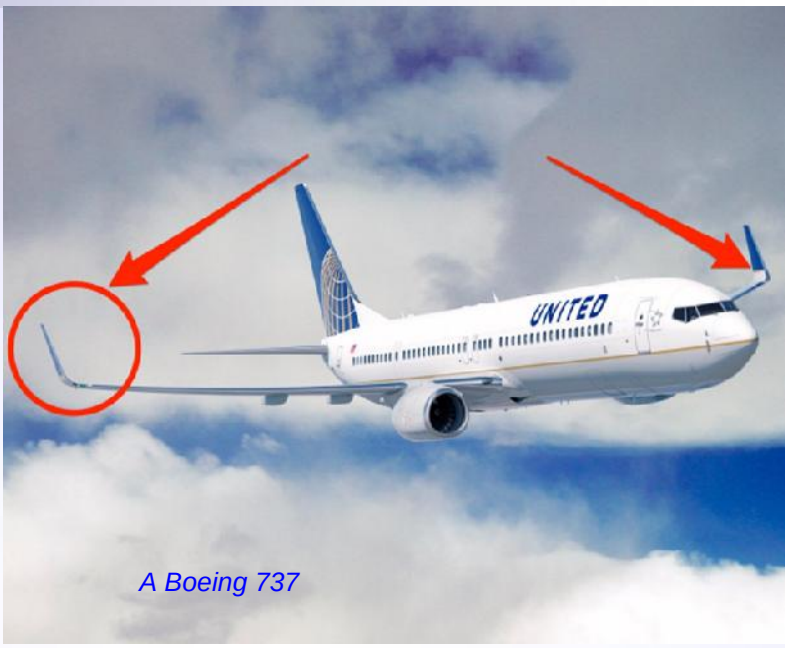
Have you ever wondered why some planes have pointy bits at the ends of the wings?

What you see are "winglets," and they have essentially become standard equipment on all new airliners.

Why are they there?

"Winglets help reduce the drag associated with the creation of lift," Robert Gregg, Boeing's chief aerodynamicist, told Business Insider.

That's the technical answer.



A Boeing 737

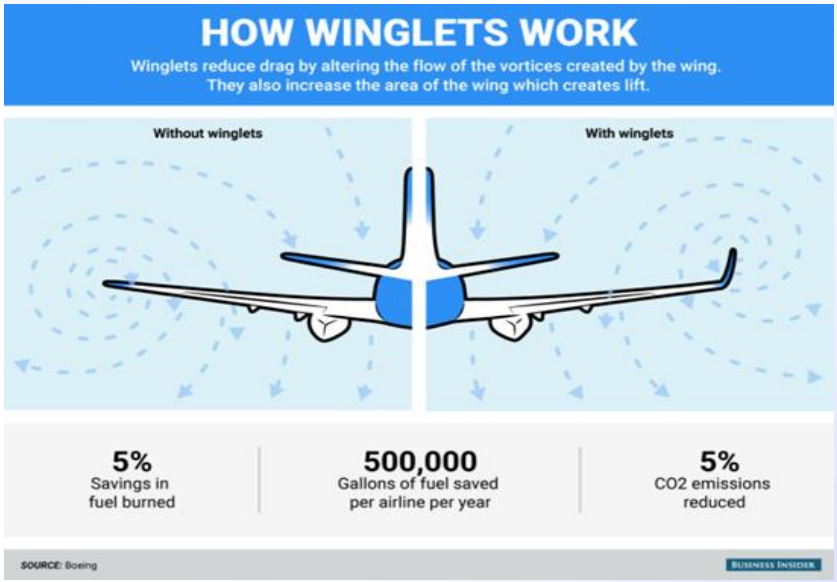
Gregg said the practical reason behind winglets is easier to comprehend.

Winglets allow the wings to be more efficient at creating lift, which means planes require less power from the engines. That results in greater fuel economy, lower CO2 emissions, and lower costs for airlines.

Boeing claims that winglets installed on its 757 and 767 airliners can improve fuel burn by 5% and cut CO2 emissions by up to 5%. An airline that installs winglets on its fleet of 58 Boeing 767 jets is expected to save 500,000 gallons of fuel annually.

Winglets help mitigate the effects of "induced drag." When an aircraft is in flight, the air pressure on top of the wing is lower than the air pressure under the wing. Near the wing tips, the high-pressure air under the wing rushes to the lower-pressure areas on top, which results in the creation of vortices. The vortices flow in a three-dimensional manner over the wings. They not only pull air up and over the wing, but they also pull air back. That third component is induced drag.

With the advent of winglets, the aircraft is able to weaken the strength of wingtip vortices and, more important, cut down on induced drag along the whole wing.



Induced drag can be overcome by making the wing longer.

In fact, the general rule is, the longer the wingspan, the lower the induced drag, Gregg said.

But in many instances, airplane makers simply don't have the option of making the wings longer. For example, narrow-body airliners such as the Boeing 737 and 757 often operate from gates at airports designed for short- to medium-range domestic flights. Since these flights usually require smaller aircraft, they have less room apportioned to them. As a result, wingspan is effectively limited by the size of the parking space the plane is allotted at the gate.

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THE SIMPLE REASON PLANES HAVE WINGLETS cont...

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So instead of the adding wingspan by making the wings longer, Boeing adds wingspan by going vertical with winglets.

A Boeing 777, No winglets here

In some instances winglets aren't necessary, because there are no constraints on space. For example, Boeing's hot-selling 777 wide-body airliner does not have winglets. According to Gregg, that's because the 777 operates from international terminals designed for larger jumbo jets. As a result, Boeing found the performance it was seeking without the need for vertical extensions.

Since they were first developed by Richard Whitcomb at NASA's Langley Research Center in 1976, airplane makers have steadily worked to improve the design and effectiveness of winglets.

According to Gregg, the first-generation winglets fitted to aircraft such as the Boeing 747-400 and the McDonnell Douglas MD11 offered up to 2.5% to 3% improvement in fuel burn compared with aircraft not equipped with the option.

Second-generation winglets, such as those found on Boeing's workhorse 737, 757, and 767 aircraft are much larger than the first-gen models, with greater curvature. Second-generation winglets offer a 4% to 6% improvement in fuel burn.

Boeing's new 737 Max airliners are equipped with third-generation winglets that offer a 1% to 2% improvement over the second-gen models. ■

(Article uplifted by Ground Safety Department.
Source: https://www.yahoo.com/finance/news/heres-simple-reason-planes-winglets-200237569.html)

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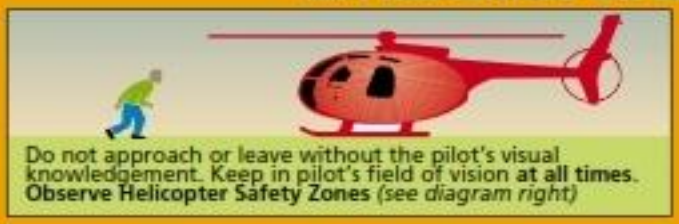
Your suggestions for improvements to this publication are also invited. CAAF also invites you to submit valuable information or articles that you would like to have published through this bulletin for the benefit of readers. Your name will be appropriately acknowledged. Please use the email address stated above.

FCAIR

FIJI CONFIDENTIAL AVIATION INCIDENT REPORTING FORMS AVAILABLE ON WEBSITE www.caaf.org.fj OR FRONT DESK, CAAF HQ

SAFETY AROUND HELICOPTERS

APPROACHING OR LEAVING A HELICOPTER



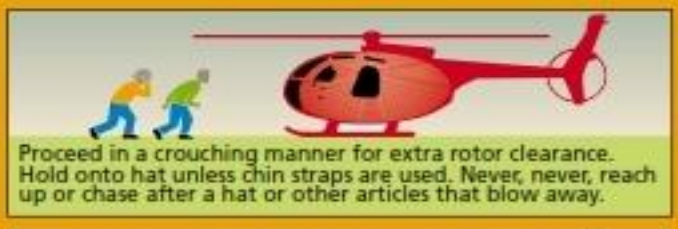
Do not approach or leave without the pilot's visual knowledgement. Keep in pilot's field of vision **at all times**. **Observe Helicopter Safety Zones** *(see diagram right)*

On sloping ground always approach or leave on the downslope side for maximum rotor clearance.

If blinded by swirling dust or grit, STOP – crouch lower, or sit down and await assistance.

If disembarking while helicopter is at the hover, get out and off in a smooth unhurried manner.

Do not approach or leave a helicopter when the engine and rotors are running down or starting up.



Proceed in a crouching manner for extra rotor clearance. Hold onto hat unless chin straps are used. Never, never, reach up or chase after a hat or other articles that blow away.

Carry tools, etc, horizontally below waist level – never upright or on the shoulder.

LANDING, TAKE-OFF AND LOADING OPERATIONS

Keep helipad clear of loose articles – water-bags, ground-sheets, tins, etc. Secure other gear from effects of rotor wash.

When transporting personnel, loading staff should ensure that:

- Passengers are briefed as above
- They are grouped together and well back at side of landing zone
- They face away from helicopter during take-off and landing
- Each person looks after their own gear
- They are paired off and ready to board in turn as soon as the pilot gives the signal

When directing pilot for landing, stand with back to wind and arms upraised.

After hooking up cargo sling, move forward and to the side to signal pilot. Ensure sling is not across skid. Never ride on sling.

When directing pilot by radio, remember that he or she may be too busy to give an acknowledgment.

Fasten and adjust seat belt on entering helicopter and leave it fastened until pilot signals to get out.

TOP TEN TIPS FOR DEALING WITH AIRPORTS SECURITY

The increased security has meant longer waits and longer lines and longer waits at the ticket counter, the gate screening area, and at the gate. The following advice will help you cope with this situation. Should you follow this tips it will make the process go as quickly as possible.

- ***Arrive Early:*** Most airlines advise arriving at the airport three hours before your flight's scheduled departure, but you may need less or more time depending on your needs. Arrive earlier if you have to go to the ticket counter line first for checked bags or special needs, or if you are traveling with young children, infants, or persons with disabilities.

- ***Make Sure that You Have Proper Identification*** : Have your Valid Passport handy all the time during your travel and make sure it does not expire within the next few months. Have any other Photo ID that you may be asked at the counter during Check in.

- ***Get Your Ticket or Boarding Pass Before You Arrive:*** Have either a paper ticket, a copy of an electronic ticket receipt, or a boarding pass in hand before getting to the airport.

- ***Where possible Self-Checkins - Avoid Using the Ticket Counter:*** Use Self Check-ins where possible to avoid standing in a long que. Where there is no self check-in have all documents handy before you get to the check-in counter.

- ***Clean out Your Carry On Bags Before Flying:*** If you have not flown for some time, you may have items in your bags such as pocket knives or other items that are no longer allowed in the cabin. Take the time to completely empty any bag that you will use before you fly in order to ensure that you did not accidentally leave something behind. Needless to say, this can avoid an embarrassing situation at the airport.

- ***Make it Easy to be Screened:*** In order to keep the security screening processes as short as possible, you should do one of more of the following: avoid packing your carry on bags tightly so that it is easy for the screener to search through them; keep your ticket, boarding pass, and passport within easy reach; wear shoes that can be taken off and put back on relatively easily; and make sure that you can show that any computer or electronic device in your carry on luggage works.

- ***Don't be Surprised by the Security Measures:*** In addition to the familiar metal detectors and x-ray machines, there may be a number of other measures in place at the airport, such as armed military personnel, bomb detection equipment, bomb sniffing dogs, and photo ID checks at the gate prior to boarding. Among other things, you may be asked to take your laptop out of its case to be screened separately by the x-ray machine, you may be asked to take off your shoes so that they may be checked, and you may have your bags, shoes, or clothing tested for explosives residues. There will very likely be other measures added over time as new security threats emerge.

- ***Don't Take it Personally:*** In addition to the standard security measures that everyone faces, you may be taken aside and given extra scrutiny one or more times by airport security and airline personnel.

In most cases, such scrutiny is not an indication that an individual is being singled out. If you feel that you are being unfairly singled out, you should take the time and effort to document your experience and lodge a complaint with the airline.

- ***Get to Know Your Airline's Policies:*** It is a very good idea to get to know an airline's policies with respect to security, ticketing, and other passenger-related issues. Ask the airline for a copy of their security guidelines as well as for a copy of their policies regarding passenger compensation due to delays. If you are doing anything out of the ordinary on your trip or require any special accommodations from the airline, contact the airline at least a day before you trip and get the information that you need.

- ***Maintain a Positive Attitude:*** Traveling by air, even when things go smoothly, can often be stressful. The new security measures will certainly provide more opportunities for passenger to be delayed or otherwise inconvenienced, and provide more opportunities to become tense, angry, or frustrated. Keep in mind that all of these measures were put in place to deal with realistic potential threats to air travellers over time, and that these measures will make it much less likely that any hijacker or saboteur will threaten anyone's safety. ■

(Source: airsafe.com)

LIQUIDS AEROSOL or GEL QUANTITY LIMITS

Passengers travelling on international flights from Fiji need to be aware of the quantity limits for liquids, aerosols and gels that can be taken through a security screening point at the airport.

- **Liquid, aerosol or gel products (such as toiletries) must be in containers of 100 milliliters or less (broadly equivalent to 100 grams or less).**
- **The containers must be carried in one transparent, resalable plastic bag, like the one in the image below.**
- **The four sides of the bag's sealed area must add up to no more than 80 centimeters (e.g. 20x20 cm or 15x25 cm).**
- **The plastic bag must be the type that can be sealed and resealed with a sealing mechanism, like a sandwich bag or freezer bag.**
- **Only one bag is allowed for each passenger, with exceptions for carers who may carry the bag/s of the people in their care, including children.**
- **All containers must fit comfortably into the plastic bag and the bag must be sealed.**
- **Containers larger than 100 milliliters, even if only partially-filled, will not be allowed through the security screening point.**

List of the most common items include:

1. water and other drinks, soups, syrups, jams, stews, sauces and pastes;
2. foods in sauces or containing a high liquid content;
3. creams, lotions, cosmetics and oils;
4. Perfumes;
5. Sprays;
6. gels including hair and shower gels;
7. contents of pressurized containers, including shaving foam, other foam and deodorants;
8. pastes including toothpaste;
9. Mascara;
10. lipsticks, lip gloss or lip balm ; and
11. Any item of similar consistency at room temperature.

(Article by AVSEC Dept)

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AVSEC CARGO AND MAIL SECURITY COURSE

The Civil Aviation Authority of Fiji (CAAF) Aviation Security and Facilitation Department conducted the ASTP 123 Cargo and Mail Security Course from 14 – 18th March 2016 at CAAF Nadi.

This AVSEC Cargo and Mail Security course was developed to provide aviation security personnel with the knowledge and skills to enable them to coordinate and supervise implementation of Security measures within their airports utilising Approved Regulated Agents Security Programmes and Standard Operating Procedures based on Annex 17 – Security and ICAO Doc 8973 (Security Manual).

The course was attended by 17 participants from Fiji Link, Carpenters Airfreight Limited, DHL Express Limited , DHL Express Fiji Airways Airfreight.Limited, Gibson Freight, Corporate Freight, TNT Express Worldwide, Airro Shipping, Post Fiji Limited and International Freight & Clearance Fiji Limited.

The objectives of the course :

- Appreciate the purpose of security measures for the protection of cargo and mail
- Understand the nature of threat to civil aviation;
- Understand the air cargo secure supply chain;
- Understand the role of the appropriate authority and operators;
- Apply appropriate security control to cargo and mail;
- Apply appropriate security control to cargo facilities, vehicles and transport, containers and equipments; and
- Respond appropriately to a security incident.

In recent years the global aviation idustry has contained to see terrorist threats to the security of the traveling public, airlines and aircrafts. Acts of unlawful interference have also occurred at airports and airlines and cargo facilities at off- airport locations.

The counter measures against these acts can be effective only as long as the people responsible for protecting the industry carry out their jobs diligently.

This course trained personnel to assist in the implementation of aviation security preventive measures in accordance with appropriate aviation security programmes and international aviation security standards and recommended practices. All particpants sucessfully passed the written exam and the course. ■

Source: Article by AVSEC Department

AVSEC QUALITY CONTROL COURSE

This course was also conducted by Aviation Security and Facilitation Department from 18th – 22nd April 2016 at CAAF Nadi.

This course was developed to provide aviation security personnel with theoretical and practical knowledge of fundamental aspects of quality control activities as a part of the National Quality Control system. Trainees were provided with a standard methodology as well as specific techniques.

This course was attended by 16 particapants from various different organisation namely from Carpenters Airfreight Limited, DHL Express Limited , DHL Global Forwarding, Corporate Freight, TNT Express Worldwide, Airro Shipping, Williams & Gosling, Evergreen International, Sunflower Aviation, Turtle Airways and Grand Pacific Hotel.

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AVSEC QUALITY CONTROL COURSE cont...

The objectives of the course were ;

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- define aviation security quality control activities;
- determine the duties and specific skills required by an inspector;
- determine the appropriate methodology necessary to conduct security inspections within the scope of the NCASQCP system and prepare for
- Conduct and present findings; and
- Conduct effective oversight of their own security programmes.

In order to receive a certificate of successful completion, participants were required to pass a exam based on Fiji AVSEC Legislation, NCASP, NCASQCP and materials presented during the course. ■

(Article by AVSEC Department)

DRONE COLLISION REPORTED AT HEATHROW

Airbus SAS

A jet airliner and a drone reportedly collided near Heathrow Airport, in London in early April 2016. There were no injuries, and after inspection the airliner was cleared to fly its next scheduled sector.

The alleged drone was not found.

British news reports say the British Airways Airbus A320 was at 500 feet on final approach when one of its pilots spotted the drone. The flight, from Geneva, was carrying 132 passengers and five crew.

A report by the UK Airprox Board found that there were 23 near misses between drones and aircraft in the six months between April and October 2015.

In Fiji, CAAF requires anyone flying a drone for recreational purpose to follow ***five simple rules***. They are:

- ☞ You must operate the aircraft in your line-of-sight during daylight. Don't let it get too far away from you.
- ☞ You must not fly closer than 30 metres to vehicles, boats, buildings or people.
- ☞ You must not fly over any populous area, such as beaches, heavily populated parks, or sports facilities where there is a game in progress.
- ☞ You must not fly higher than 61 metres (200 feet).
- ☞ You should not fly within 5km (3 nautical miles) of an international airfield or 3km (1.6 nautical miles) of any other airfield.

Source: Article by Air Safety Department

AIRCRAFT AND LASER LIGHTS DO NOT MIX

AIRCRAFT AND LASER LIGHTS DO NOT MIX

The public is warned that pointing laser lights towards aircraft could blind pilots and endanger the aircraft and passengers on board.

Any person who is caught pointing laser light at aircraft is liable to a fine of $1,000 and/or imprisonment for a term of up to 6 months.

In the interest of public safety

- DO NOT point laser lights towards an aircraft
- If you see anyone pointing a powerful beam of light towards an aircraft BE SAFE and report it immediately to the nearest Police Station

DON'T RISK THE LIVES OF OTHER PEOPLE AND YOURSELF!

Civil Aviation Authority of Fiji

Promoting effective aviation safety and security in Fiji and the region

HEALTH TIPS—OBESITY

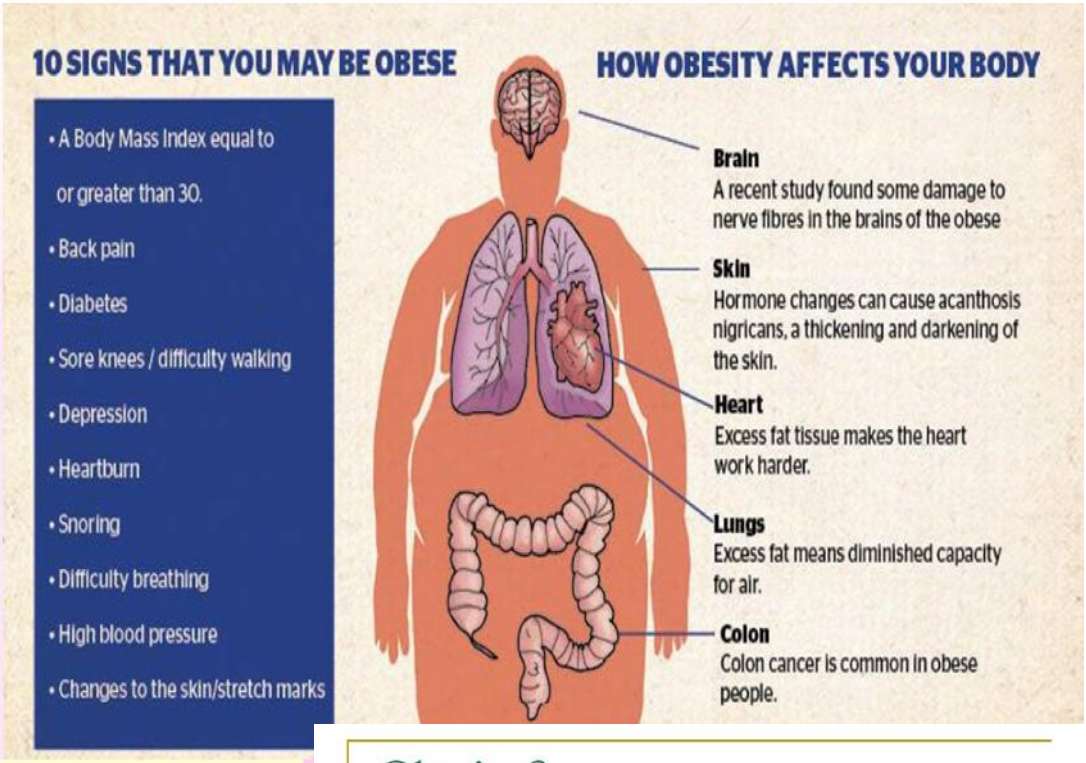
Obesity is one of the most pervasive, chronic diseases defined by an excess amount of body fat. It is also defined as excess adipose tissue that are difficult to control when dieting.

What causes obesity

Obesity does not just happen overnight, it develops gradually from poor diet and lifestyle choices. **Obesity occurs when your body consumes more calories than it burns.**

How?

- Overeating;
- under-exercising, resulting from a lack of will power and self-control;
- Lack of physical activity ;
- Some genetic factors like change in appetite and fat metabolism;
- Some environmental behavioural and social factors .



COMPLICATIONS

Obesity Symptoms

- Obesity increases weight, reduces physical movements, and also brings in slowness in emotional and mental activities.
- Food intake increases.
- Obesity can result in frustration.
- Laziness increases, reducing overall efficiency.
- Sometimes obesity can create obstruction to breathing process.
- Obesity may result in heart problems, diabetes or blood pressure.

Treatment Of Obesity

- Dietary changes such as - Cutting Calories, Feeling full or less, Making Healthier choices, Restricting certain foods & Meal replacements.
- Exercise and keep the moving active.
- Behavior change through counselling and support groups.
- Prescription weight-loss medications – seek your doctors recommended medication.
- Weight-loss surgery.

Lifestyle And Home Remedies

- Learning about your condition
- Setting realistic goals
- Sticking to your treatment plan
- Enlisting support
- Keeping a record
- Identifying and avoiding food triggers
- Taking your medications as directed.