



AIR NEW ZEALAND 

Airline Operations & Safety



Is My Patient Fit to Fly?

Dr Ben Johnston

Air NZ Aviation Medicine Unit



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Overview

- Basic Physiology of Flight
- Air New Zealand MEDA process
- Assistance Available
- Specific Medical Conditions
- Other Considerations
 - In Flight Emergencies
 - Pilots as Patients



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2 billion air travellers per annum



379 seats... 12 hours... 36,000 ft



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An increasing number of people travel with pre-existing medical conditions



- Air New Zealand
- Key Air New Zealand codeshare partners





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Realities of Air Travel

- Fatigue and stress prior to trip
- Forgotten medications
- Interaction with alcohol





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Factors to Consider

- Physiological changes of altitude
- Noise, vibration
- Low humidity
- Immobility, upright position
- Sleep deprivation and circadian disruption
- Long flight durations





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Basic Physiology of Flight



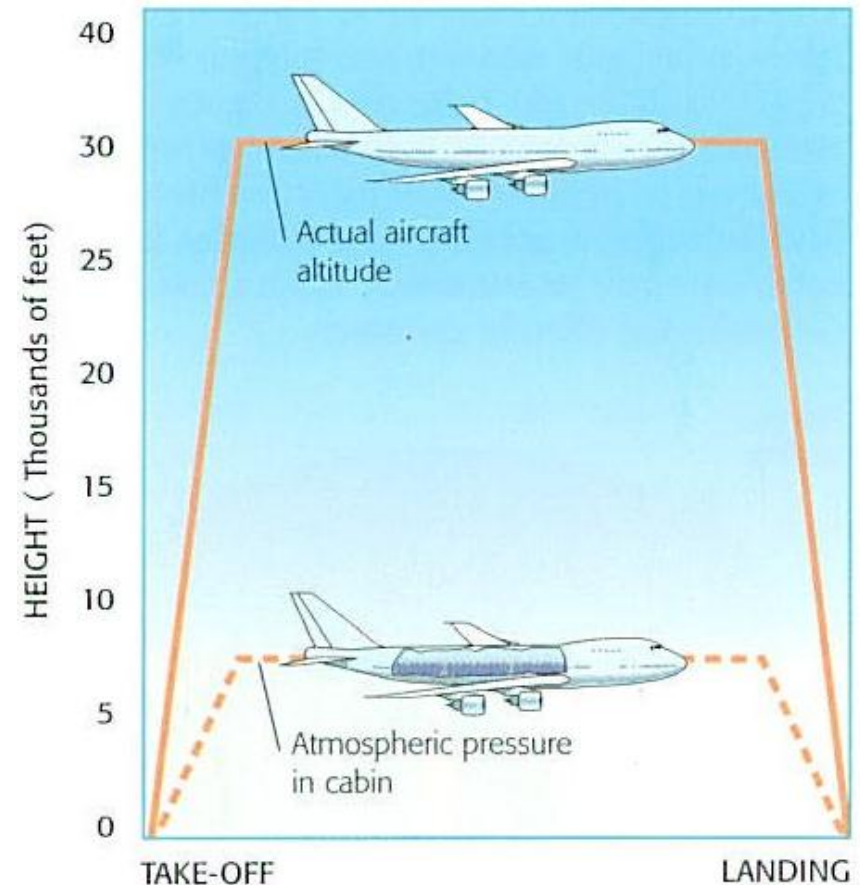
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Altitude

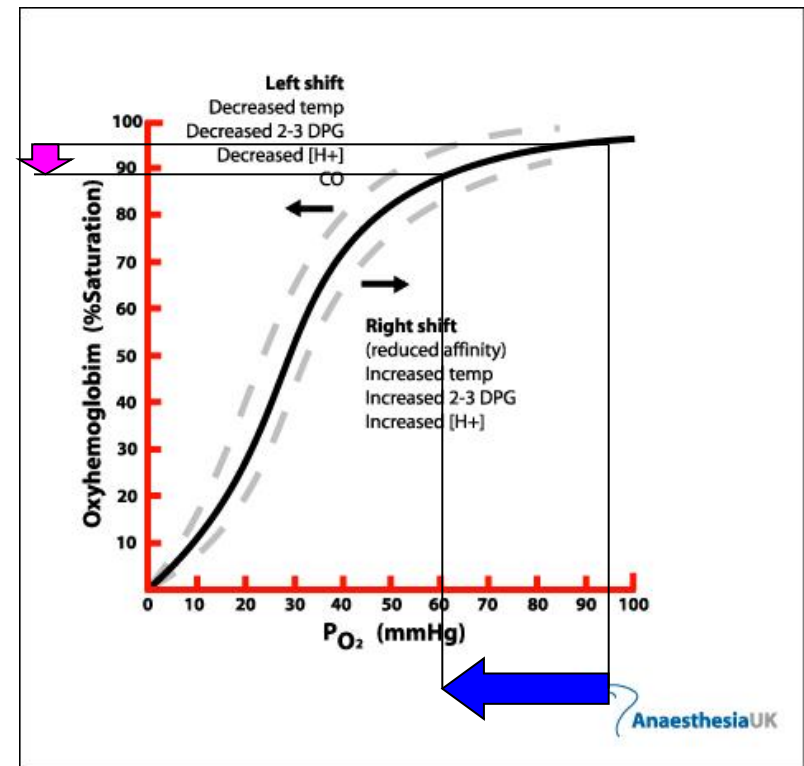
- Flight Altitude:
28-40,000 ft
- Cabin Altitude:
5-8,000 ft
- Automatically controlled to maintain a safe & comfortable environment





Cabin Altitude 8000 ft: Oxygen

- $\downarrow P_aO_2$ 95 to 60mmHg
- Comparable to breathing 15% oxygen
 - Hypobaric hypoxia
- Healthy individuals experience 3-4% $\downarrow S_AO_2$





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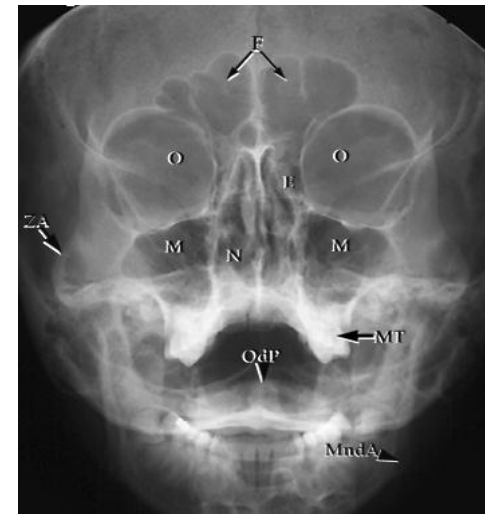
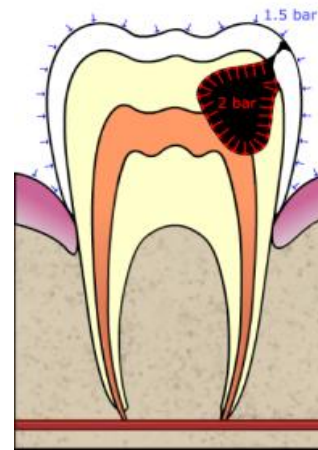
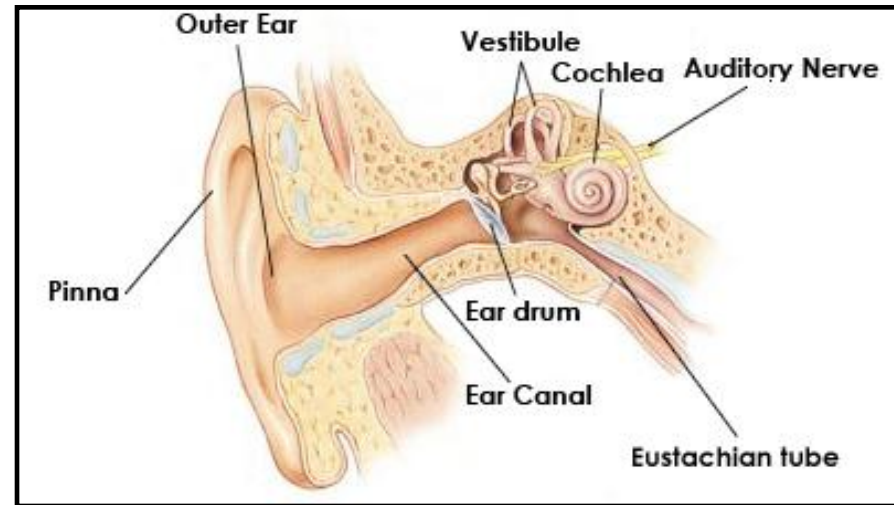
- Pax with pre-existing cardiac, pulmonary or haematological disease
 - Reduced baseline tissue oxygenation
 - Reduced capacity to compensate for additional hypoxic stress





Gas Volume Changes

- Internal gas expansion and contraction
- Organ expansion or venting essential
 - Tissue stretched leading to pain, trauma





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TAKE HOME MESSAGES

- Cabin altitude is approx comparable to breathing 15% O₂
 - Beware pre-existing cardiac, respiratory or haematological conditions
- Gases expand and contract up to 30%
 - Beware trapped gases due to illness, injury or treatment



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MEDA Process



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The MEDA process is

- A request for assistance for your patient
- Your opinion on medical fitness for proposed flight
 - Final decision rest with Air NZ
 - You can always call and discuss
- A system for managing air travel safely
 - Reduce risk of deterioration in flight, and aid treatment if deterioration occurs
 - Alerts the airline staff to the passenger's special requirements



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The MEDA process is not....

- A limit on access to air travel
 - Very few pax are denied travel
 - Those that are deferred may often travel once stabilised
- A bureaucratic formality
- A breach of patient privacy
- An air ambulance service



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MEDA Forms

- Access latest version online
 - Future changes pending
- Part 1: Pax or Agent to complete
- Part 2: Doctor to complete
 - 14 check boxes (Yes/No + details if required)
 - Pax/Doctor details, Medical details
 - Send to Paxcare
- Part 3: Guidelines for Doctors



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ts, Airfares & Holidays - Air New Zealand Official Site - New Zealand Site - Windows Internet Explorer provided by A

1

http://www.airnewzealand.co.nz/

eagle lifting dev

View Favorites Tools Help

Favorites Moodle AFOEM BMI ChemAlert CVD Risk Assessment Doc Series Gmail HSE MedTech Noise Calculator NZTA Driving UTC Time Windows Marketplace

Cheap Flights, Airfares & Holidays - Air New Zealand ...



american dream
Business class to selected US cities
from \$ **6,999**
per person return [See more](#)



7th day free
Rent an Avis car for 7 days or more and receive 1 day free
[See more](#)



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Terms and Conditions: Travel date restrictions and other conditions apply. Select deal for full details.



- See Also
- Check-In & Immigration
- Baggage >
- Onboard Your Flight >
- 2** **Special Assistance**
- Company Information >

3

Medical Conditions

[Travelling with a Medical Condition](#)
[Medical Equipment](#)

Special Dietary Requirements

[Special Meals](#)
[Allergy Alerts](#)

Disability / Accessible Travel

[Services for People with Wheelchairs](#)
[Travelling with a Medical Condition](#) [People with Wheelchairs](#)
[Eagle Lifting Device](#)
[Blind & Visually Impaired](#)
[Deaf & Hearing Impaired](#)
[Deafblind](#)
[Travelling with a Service Dog](#)
[Artificial Limbs \(Prosthesis\)](#)
[Services for the Elderly](#)
[Safety Assistant](#)

Pregnancy, Infants & Children

[Travelling with Children](#)
[Children's Meals](#)
[Infants Car Seats](#)
[Children Travelling Alone](#)
[Travelling When Pregnant](#)



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Travelling with a Medical Condition - Special Assistance - Air New Zealand - New Zealand Site - Windows Internet Explorer provi

http://www.airnewzealand.co.nz/special-assistance-medical-condition

File Edit View Favorites Tools Help

Travelling with a Medical Condition - Special Assistanc...

Medical Conditions

- Travelling with a Medical Condition
- Medical Equipment

travel.

This medical clearance allows your doctor to ensure it is safe for you to travel and it also allows Air New Zealand to make arrangements for special services as required.

[MEDA forms](#)

[Medical clearance required prior to travel](#)

[No medical clearance necessary but please tell us!](#)

[Medications](#)

[Travelling on other airlines](#)

MEDA forms

Your travel agent can provide you with a [medical clearance form](#) known as a MEDA. Alternatively you can download and print the form yourself by clicking on the PDF file below.

The document consists of four pages:

- Page 1 is the MEDA form itself. You or your Travel Agent will need to fill in the flight details. Your doctor will fill in the medical details. Once this page has been completed and signed by your doctor, please return this page to your travel agent or Air New Zealand CARINA Services by fax or e-mail at least 5 days before you travel. Details of where to send it are included on the MEDA form.
- Pages 2 and 3 contain information on when you need to fill out a MEDA form and factors to consider when flying with a medical condition.
- Page 4 is a supplementary form which needs to be completed only if you will be travelling on a stretcher. This page, when applicable, will also need to be completed and signed by your doctor and faxed to Air New Zealand CARINA Services at least 5 days before you travel. Details of where to send it are included on the MEDA form.

[Medical Fitness for Airtravel \(MEDA\) - May 2011](#)

[Medical Fitness for Airtravel \(MEDA\) - Guidelines for Doctors](#)

[Medical clearance required prior to travel](#)

Local intranet 100%

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Online Resources

- [MEDA Form](#)
- [Guidelines for doctors](#)



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TAKE HOME MESSAGES

- Access MEDA forms on Air NZ Website
 - Don't print and photocopy old versions
- Please make them complete, accurate and **LEGIBLE!!**
- Include clear contact details
- Use MEDA Part 3: Guidelines for Doctors



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Assistance is Available

- Expert knowledge
 - Practical: Cabin Layout, Support, Early Boarding
 - Medical: Specialist Knowledge
- Special Equipment
 - Oxygen concentrators (Intl flights)
 - Mobility equipment
 - Stretcher



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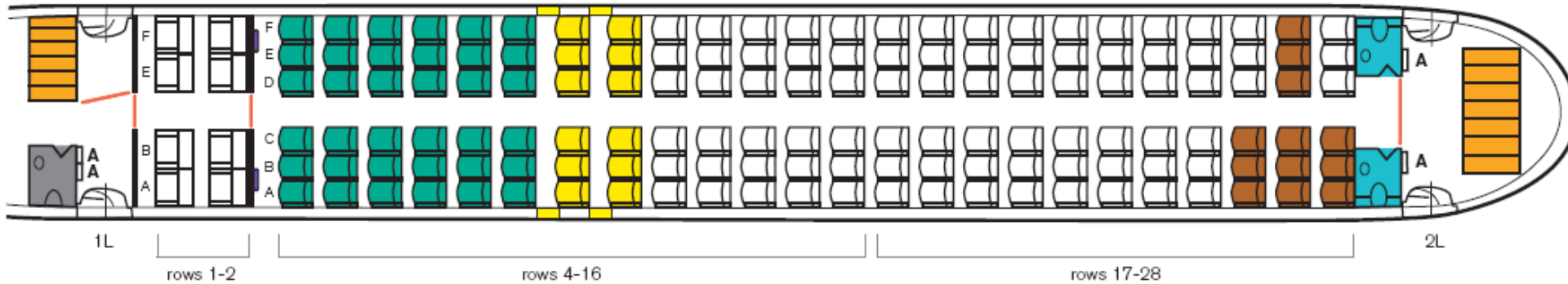


Cabin Layout

A Zone
8 Business Class

B Zone
48 Space + Economy Class, 24 Pacific Economy Class

C Zone - 72 Pacific Economy Class



| | | |
|--|--|--|
| | | |
| | | |
| | | |
| | | |

- Visually Impaired seating: Any seat except for restricted emergency exit rows
- Stretcher rows: 26-28ABC
- Medical Power Point: 28B
- Seats with vertical arm-rests: All seats except 4ABC DEF
- Preferred lifting device seating D seats but not row 4
- Oxygen concentrator seating: 28ABC
- Disabled seating: Any seat except for restricted emergency exit rows
- Unaccompanied minors: row 27 and forward except restricted

A320



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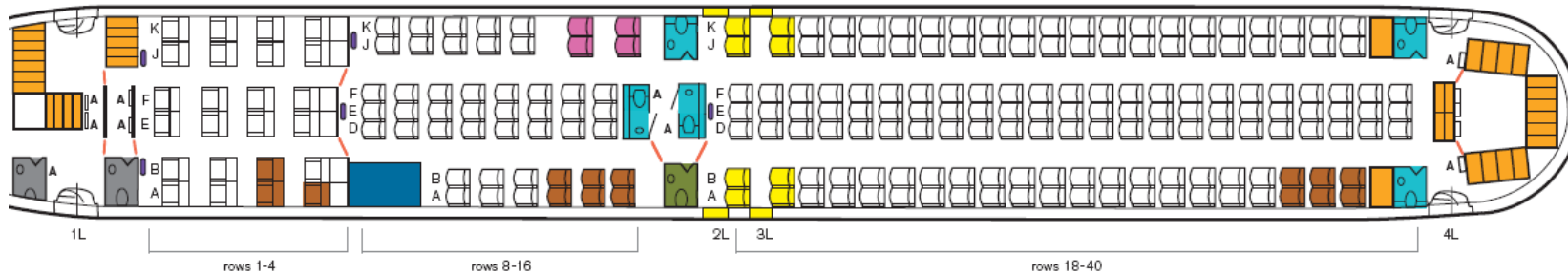
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A Zone – 24 Business Class

B Zone – 46 Space + Economy Class (Long Haul)
B Zone – 50 Space + Economy Class (Short Haul - Crew Rest seats saleable)

C Zone – 153 Pacific Economy Class



- | | | |
|---|--|---|
|  Premium Zone lavatories |  Galleys |  Crew Rest - No IFE |
|  Economy Zone lavatories |  Curtains |  Exits row seats |
|  Bassinet positions (5) |  Special Handling Seating |  Disabled lavatory |
| |  Flight Crew Rest |  Flight Attendant position |

-  Oxygen concentrator seating: 4A, 16A
-  Stretcher rows: 14AB-16AB
-  Medical Power Points: 3AB-15AB
-  Seats with vertical arm-rests: All except 8DEF, 9JK, 11AB
-  Preferred lifting device seating DJ seats but not rows 8, 9, 18, 19
-  Disabled seating: Any seat except for restricted emergency exit rows
-  Unaccompanied minors: rows 36AB - 38AB
-  Visually impaired seating: Any seat except for restricted emergency exit rows



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In-flight Oxygen

- Must be pre-arranged
- Emergency oxygen supply is for flight-related emergencies
 - E.g. Sudden decompression
 - Limited supply
 - Must not rely on this for pax
- Oxygen bottles vs oxygen concentrators





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Oxygen concentrators

- Smaller, lighter
- Can be supplied by Air NZ
 - With sufficient notification
- Pulse delivery
 - Activated by initiation of breath (may not be suitable for those with poor respiratory effort)





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Mobility Equipment

- Ambulift
- Wheelchairs
- Aisle Chairs





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Additional Equipment

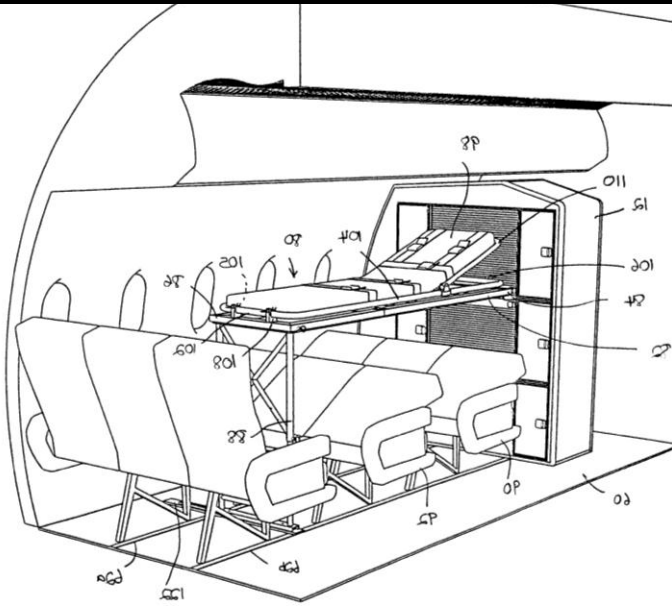
- Tetraplegic Torso Harness
- Slide Board & Sheet
- Eagle Lifting Device





Stretchers

- International only
 - Most aircraft types
 - Most flights
- Medical escort required
 - Ambulance, transit O₂ pax responsibility





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Personal Medical Equipment

- Must be pre-approved via MEDA $\geq 48-72$ h prior
- Included in cabin baggage allowance
- Most require battery
 - Aircraft power supply 115V, 400Hz, US plug, limited medical outlets
- Oxygen
 - Domestic: pre-approved, source from BOC
 - Internationally: Air NZ Oxygen Concentrator
 - When pre-approved may use own
 - Transit O₂ pax responsibility
- CPAP



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Aviation Medicine Unit





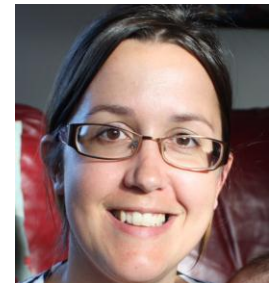
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The Team

- Five doctors (3 FTE)
 - CMO Tim Sprott, Ben Johnston, Nicola Emslie, Alexandra Muthu, David Powell
- Five nurses (4 FTE, 1 in CHC)
- One administrator





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Services and Functions

- Occupational and Environmental Medicine
 - All Air New Zealand Employees
 - Crew Health
 - Passenger Health
 - Pre-travel clearances: MEDA (Paxcare, AvMed)
 - Gate clearances (MedLink)
 - In-flight medical events (MedLink, AvMed)
 - Medical emergency planning and oversight



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Contact Details

Air NZ Aviation Medicine Unit

Phone: +64 9 256 3924

MEDA Clearance enquiries

Phone: +64 9 255 7757

Fax: +64 9 336 2856

Email: MedaClearance@airnz.co.nz

Special Handling enquiries

Phone: +64 9 255 7757

Email: SpecialHandling@airnz.co.nz



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In Flight Assistance

- Medlink via Sat Phone
- Physicians Kit
- Cabin Crew Training and Procedures
- More details in the session on in-flight emergencies!



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TAKE HOME MESSAGES

- MEDA process is to facilitate safe travel
- Equipment and Expertise is available
- We will help even seriously ill pax fly
 - E.g. Palliative Care patients
- If in doubt, complete a MEDA
 - Accurate and complete



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Specific Medical Conditions



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Physiology aside...

“It's the **stability**, or instability, of someone's underlying condition that indicates the probability of a spontaneous event occurring while they are in the air.”

Dr David Smith, British Cardiovascular Society

“



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Respiratory Disease

- Pneumothorax
- COPD
- Asthma
- LRTI



search ID: jhan239



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Rules of thumb

- At sea level, on air:
 - Can walk 50m on flat without SOB:
 - *unlikely* to need O₂
 - SaO₂ on the ground:
 - <93% *may* need O₂
 - <88% *will* need O₂
 - Indicate SaO₂ on MEDA





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Pneumothorax

- Contra-indication to passenger air travel
- May expand up to 30%
- CXR required confirming full resolution
- Wait 14 days before travel

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"It's the worst punctured lung I've ever seen Sir."



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General Considerations

- Acute exacerbations (Asthma, COPD)
- Severity and stability
- Functional status (e.g. mobility)
- Infectious status
- Medications for self management to be carried on person



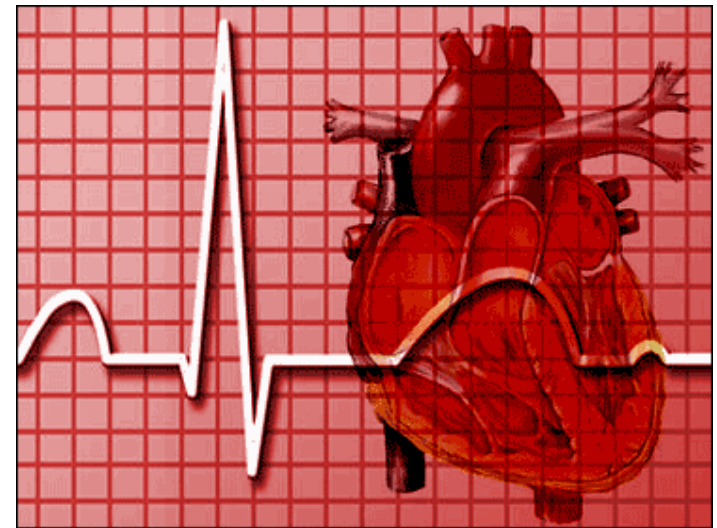
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Cardiovascular disease

- Myocardial infarctions
- Angina
- Cardiac Failure
- Valvular heart disease
- Post-surgical travel





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Myocardial Infarction: British Cardiothoracic Society Guidelines

- **High risk patients** = EF < 40% with signs and symptoms of heart failure or requiring further investigation, revascularization or device therapy
 - Discuss with AvMed Unit
- **Moderate risk** = EF > 40%, no evidence heart failure, inducible ischaemia or arrhythmia
 - Delay travel ≥ 10 d
- **Low risk** = 1st cardiac event, uncomplicated, age < 65, successful reperfusion, EF > 45%
 - Consider travel ≥ 3 d
 - Emergency repatriation earlier with AvMed approval, O₂ and escort



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General Considerations

- Acute exacerbations (Angina, CHF)
- Severity and stability
- Functional status (e.g. mobility)
- Medications for self management to be carried on person





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Haematological conditions

- Generally fit to fly if $Hb \geq 90g/L$
 - Chronic compensated disease consider $Hb \geq 80g/L$
- If Hb lower or concurrent lung/cardiac disease
 - Consider transfusion or O_2
- Acute anaemia
 - Check $Hb > 24h$ after last blood loss, which must have ceased





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Pregnancy

- Assuming uncomplicated singleton pregnancy, no history of premature labour:
 - >5h flights permitted to 36⁺⁰/40
 - <5h Flights permitted to 38⁺⁰/40
- Considerations:
 - Multiples
 - Complicated pregnancy
 - Letter confirming dates, fit to travel
- Also: miscarriage, infections, VTE risk





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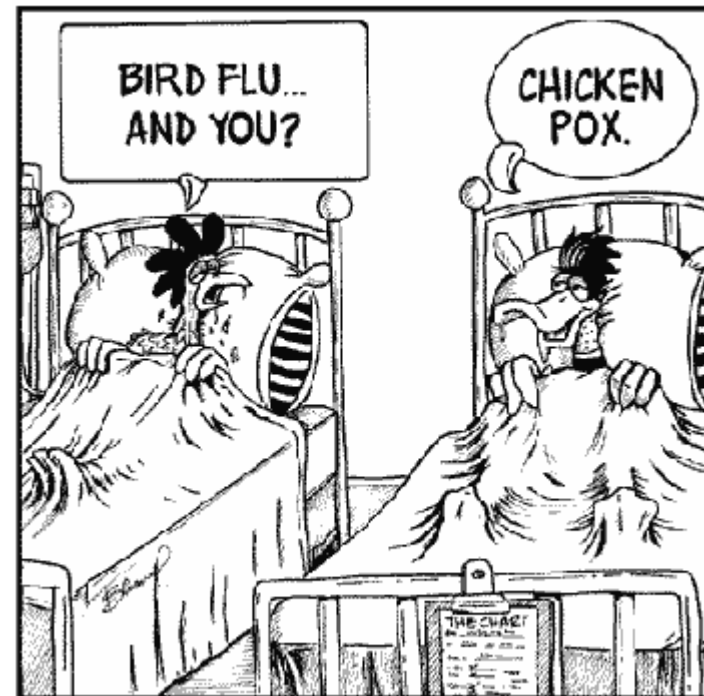
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Infectious passengers

- TB
- Measles
- Mumps
- Chicken pox

- Influenza
- Gastroenteritis
- Whooping Cough





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Cabin Air Quality

- Source
 - 50% from outside
 - 50% re-circulated via filters
- Air is clean
 - Bacteria, fungi, viruses, dust, fibres: HEPA (>99.997% efficiency)
 - Ozone: catalytic converters & adsorbent filters
 - Odors, VOCs, SVOCs: adsorbent filters
- Full exchange every 3-4 minutes





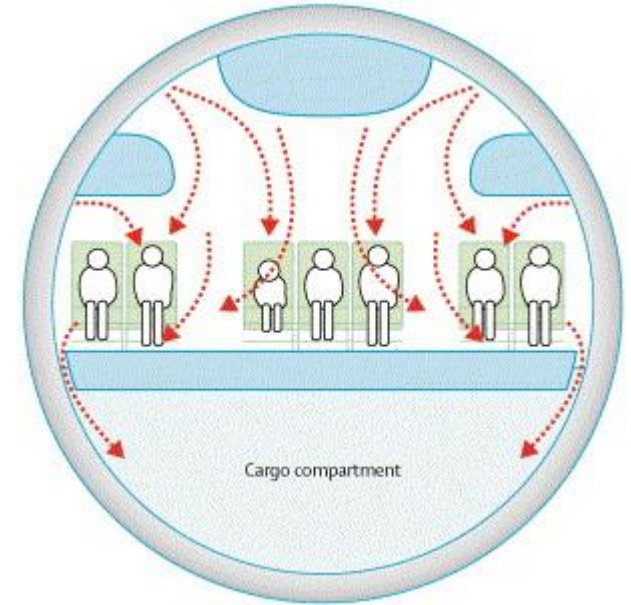
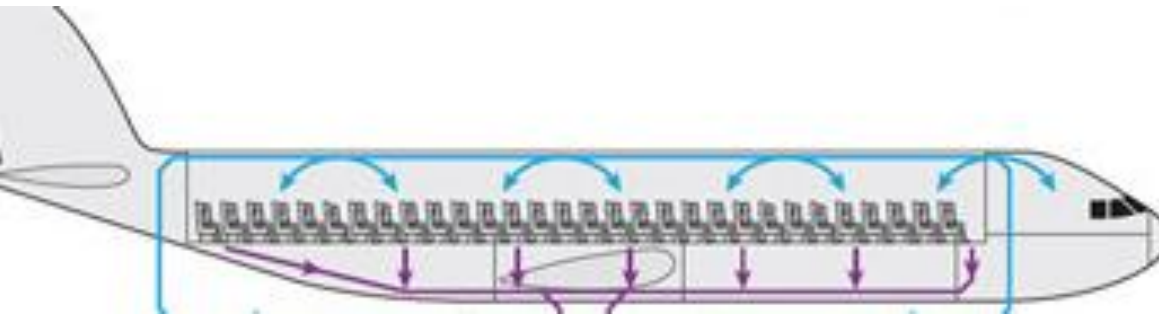
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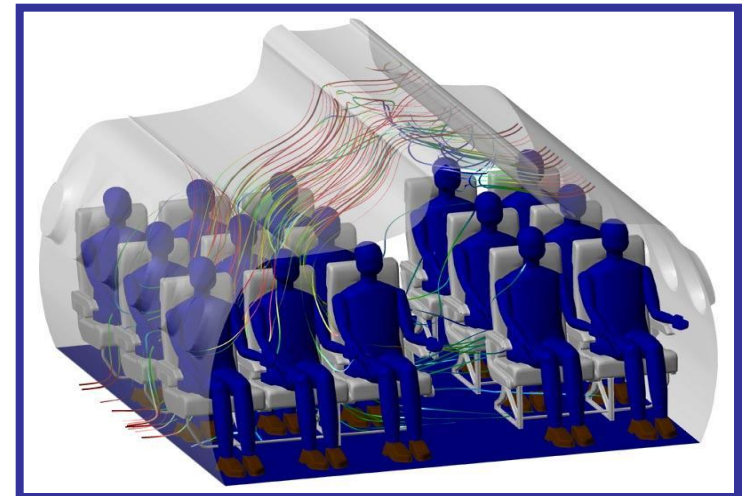


Aircraft Airflow

- Laminar not longitudinal



- Risks for Infectious Disease:
 - Sitting in close proximity
 - Fomites





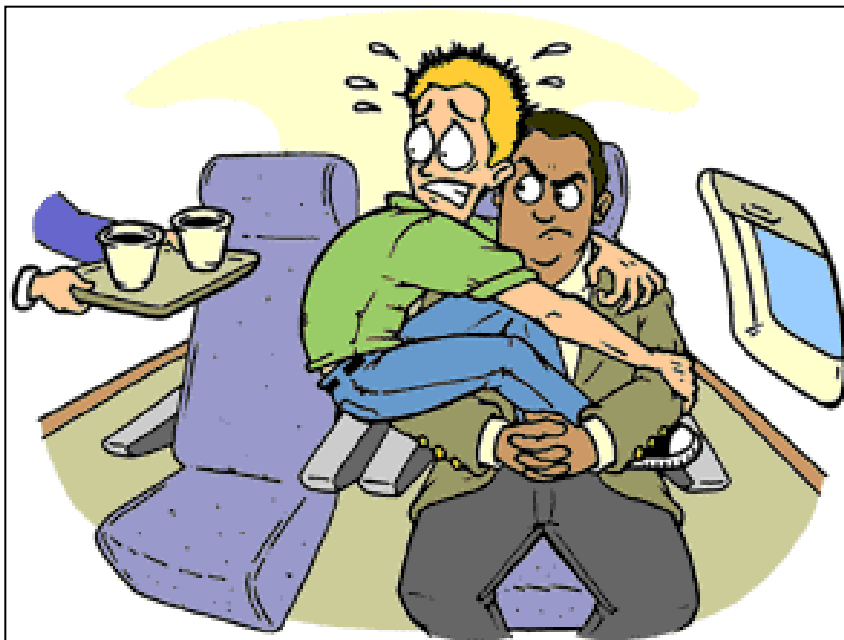
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Psychiatric Conditions

- Anxiety and fear of flying
- Claustrophobia
- Psychosis



- Educate:
 - Breathing exercises
 - Hyperventilation symptoms
 - Alcohol
- Ground trial first for anxiolytic, if required
- Consider MEDA
 - Crew aware so can assist



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Adverse effects of alcohol are more marked at altitude...especially if combined with sleeping tablets & other medication



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Psychiatric Conditions

- Consider:
 - Stability
 - Security
 - Additional stresses of travel
 - Ability to self-care
 - Management of own medication
 - Risk of deterioration

- May require an escort
 - Travel companion (friend/family)
 - Medical (nurse/doctor)





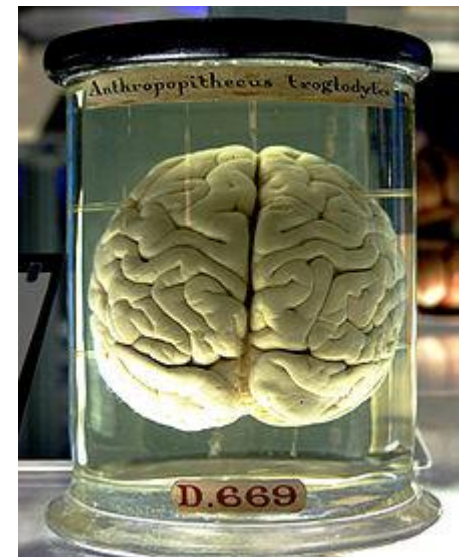
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Neurological Conditions

- CVA, TIA
 - Minor $\geq 3d$ if stable and improving
 - Major $\geq 10d$ if stable
 - Supplementary oxygen required within 2/52
 - Nursing escort may be required dependent upon deficits





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- Seizures
 - Not if seizure < 24h before departure, uncontrolled epilepsy or first-time seizure prior to medical assessment
 - Hypoxia may lower seizure threshold
 - Medication compliance essential
- Dementia
 - Avoid if severe
 - May require an escort
 - Consider co-morbid medical conditions



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Diabetes

- Goal is to avoid hypo-glycaemia in flight
 - Carry all medication in cabin (storage)
 - Letter from doctor
- Time Zone changes:
 - Tips for patients on air travel:

www.diabetes.org.nz

www.diabetes.org.uk



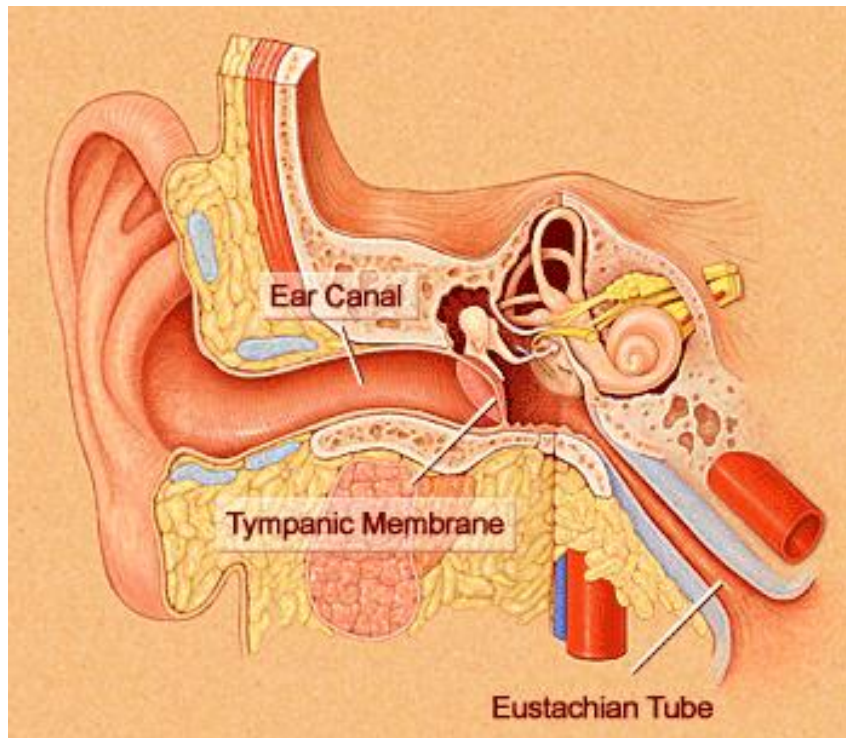


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Middle Ear Disorders



- Gas expands on ascent, contracts on descent, fluid does not
- Eustachian tube equalises middle ear
- If blocked on descent, vacuum effect occurs pulling TM in
→ pain, potential rupture
→ Otic barotrauma
- **DO NOT FLY IF CANNOT EQUALISE EARS**



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Broken Bones

- Causes problems if limb swells within closed cast
- Lower limb cast
 - Bi-valve if <48 hours since break or surgery
- Consider
 - Anti-coagulation flights >8h
 - Check Hb >90
- Exit row seat not permitted, must be able bodied





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Surgery

- Laparoscopic surgery: 3-5/7
- Eye/Ear surgery
 - Depends on procedure
- Major abdominal surgery: usually 10/7
 - Case reports of suture dehiscence
- Cranial surgery
 - $\geq 10d$ or need CT to confirm no intra-cranial air





DVT prevention

- Risk secondary to air travel is controversial:
1 in 4656 flights
 - Multi-factorial
 - Related to duration of flight (>8h)

Slightly increased risk

Age >40 yrs
Varicose veins
Polycythaemia

Moderate risk

Obesity
Pregnancy
Post natal
OCP
HRT
Relative immobility
Family history

High risk

Previous VTE
Thrombophilia
Major surgery
Malignancy



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DVT Prophylaxis

| All passengers | Slightly increased risk | Moderate risk | High risk |
|---|-------------------------|---------------|-----------|
| Avoid alcohol Remain mobile Leg exercises | | | |
| Avoid sleeping pills Avoid sleeping for long periods Consider graduated compression stockings | | | |
| Graduated compression stockings | | | |
| LMW Heparin | | | |



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TAKE HOME MESSAGE

- **Assessing Fitness to Fly**
 1. Risk of complication/exacerbation? (Sickle)
 2. Difficult problems to deal with? (Seizure)
 3. Are they a risk to others? (Psych, Infection)
 4. Special requirements? (Oxygen, Escort, Self Cares)
 5. Total contraindications?
 6. “Offensive” pax?



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TAKE HOME MESSAGES

- Stability of condition predicts flight risk
 - Need medications in cabin baggage
 - Diabetics need specific advice
- Oxygen
 - Unlikely to be needed walk 50m without SOB
 - 2L is usually enough when required
- Consider Escort
- Air NZ Website for specific medical issues



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Questions?





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Scenarios



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- 15 m.o. with Chickenpox
- Travelling Wellington to Sydney
- MEDA states “seat away from elderly (at risk) passengers”



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| Communicable/ Infectious diseases | |
|--|---|
| Varicella (Chickenpox) | May travel once all lesions have formed scabs - generally around 7 days after start of rash. |
| Measles (English) | Travel 5d from the start of the rash. |
| Rubella (German measles) | Travel 5d from the start of rash. |
| Dengue Fever | Travel if clinically stable. Transmission Aedes mosquito. Not transmissible from person to person contact |

- Don't forget parents and siblings
 - Incubation 10-21d
 - Infectious 2d before rash until scabs



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- 28y with Pneumothorax
- Due to travel in 5/7
- Lung not fully inflated when MEDA received



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| | |
|---|--|
| Asthma | Can fly if mild or moderate asthma, currently asymptomatic, travelling with medication in hand luggage. Severe/brittle asthma – discuss with AvMed Unit. Note, most common cause for asthma attack in aviation setting is rushing to board flight and forgetting to have inhaler in carry-on bag. |
| Pneumothorax – spontaneous or traumatic | Contra-indicated for flight if lung not fully inflated. Travel should be delayed 14 days post resolution. Earlier travel may be considered in discussion with AvMed Unit. Requires check x-ray post removal of drain to confirm complete resolution of pneumothorax. If Heimlich type drain and medical escort early transportation is acceptable. |
| Chest surgery (pulmonary) e.g. lobectomy | May fly ≥ 11 d post-op if uncomplicated recovery, no pneumothorax. |



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- 12y with Anaphylaxis to Peanuts
- Travelling Auckland to Brisbane
- Carrying an EpiPen
- Accompanied by 6y brother



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| Other conditions/circumstances | |
|--------------------------------|--|
| Anaphylaxis | Recommend travel with adrenalin auto-injector in hand luggage and passenger must be capable of self-administration or travelling with escort who can administer. Allergen-free environment (including meals) cannot be guaranteed. |
| Scuba diving | >24h following uncomplicated scuba diving. Flying should be further delayed if multiple dives in the 3d before travel. |
| Decompression illness | In discussion with treating physician (hyperbaric medicine) and AirMed Unit - generally 2-7d after treatment |

- Unable to provide allergen free cabin
- Consider if could self administer with allergy symptoms & panic
- Escort >16y



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- 69y with mild Dementia
- Travelling Invercargill - Wellington - Auckland



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| | |
|--|--|
| Increased intracranial pressure | Travel when clinically stable and neurologically intact. |
| Dementias | If severe e.g. significant risk of acute behavioural problems that would be difficult to manage in-flight even with escort – avoid travel. If lives in hospital/rest-home may travel providing stable behaviour & management with a nurse escort. If stable (calm and co-operative) may be able to travel with a non-medical family/friend escort, but consider the stresses of travel. Consider provision of oxygen if co-existing heart or lung disease. |
| Brain tumour | Not fit for travel if significant symptoms e.g. uncontrolled seizures. Consider need for escort if significant deficits. |
| Cerebral Palsy | Can travel if clinically stable. |



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- 53y with Epilepsy
- Travelling LAX to Auckland
- Seizure 2/7 ago
- On medication



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| Neurological Conditions | |
|--------------------------------|---|
| CVA/TIA | $\leq 2d$ should not fly. Minor CVAs including TIAs fit for travel $\geq 3d$ if stable and improving. Major CVA can travel after 10d if stable. Travel may be considered after 5d with AvMed Unit clearance. Supplementary oxygen required within 2 weeks of major CVA. Nursing escort may be required dependent upon deficits. |
| Seizures | Should not fly if seizure $< 24h$ before departure or uncontrolled epilepsy. May travel if $\geq 24h$ since seizure and control stable. First-time seizure requires medical assessment & clearance. Note that relative hypoxia at cabin altitude can lower seizure threshold – encourage compliance with medication . |
| Syncope | Acceptable for travel if $< 70y$ with classic vasovagal symptoms, no history of CAD, significant heart arrhythmia, |



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Aircrew as Patients



- Legal Obligations
- Medical Conditions of Potential Concern



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Civil Aviation Act: Section 27C

- Medical Practitioners **must** report a medical condition that **may** interfere with Aviation Safety as soon as is practicable
- Public Safety Responsibility
- Indemnification against civil or criminal liability for reporting with reasonable grounds in good faith
 - Able to report without patient consent
- Law covers:
 - All private pilots, commercial pilots, airline pilots, and ATCs;
 - Some student pilots, parachutists, glider pilots, ultralight / microlight pilots, hang-glider pilots, and balloonists





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- Advise pilot going to report to CAA
 - Unsure? Discuss with CAA Med Unit
- Document reasons

- Pilot also has legal obligation to advise CAA:
 - If aware of, or reasonable grounds to suspect, any new or change in existing medical condition that may interfere with aviation safety
 - As soon as practical
 - Should not fly (or work as ATC)



http://www.caa.govt.nz/medical/Med_Info_Sheets/MIS002.pdf



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Pilot Medical Certification

- Strict medical standards (Part 67)
 - Aviation Medical Examiner
 - Class I (CPL), II (PPL), III (ATC)
 - Medical incapacitation: 1% p.a. guide
 - May need further investigation
 - E.g. NZGG CV Risk >10%: need to demonstrate normal myocardial perfusion (stress ECG/Echo)
- Accredited Medical Conclusion for Flexibility





Looking at the law

Civil Aviation Rule Part 67: Medical Standards

Rules 67.103 (Class 1), 67.105 (Class 2), and 67.107 (Class 3) include provisions that require an applicant to have no significant* history or diagnosis of heart problems, to have no significant coronary artery disease, and to not have elevated cardiovascular risk unless normal myocardial perfusion can be demonstrated.

The exact wording of the class 1 cardiovascular system medical standards is shown below. These standards state that an applicant must—

- (1) have no history or diagnosis of any condition of the heart or circulatory tree that is of aeromedical significance; and
- (2) without limiting paragraph (d)(1), have no history or diagnosis of any of the following specific medical conditions, to an extent that is of aeromedical significance:
 - (i) coronary artery disease;
 - (ii) left bundle branch block;
 - (iii) right bundle branch block unless ischaemic causes have been excluded;
 - (iv) uncontrolled hypertension;
 - (v) abnormality of the muscle, valves, or conduction system of the heart;
 - (vi) abnormality of the rhythm of the heart; and
- (3) without limiting paragraph (d)(1), have no disorder requiring a cardiac pacemaker; and
- (4) have no excessive cardiovascular risk factors unless normal myocardial perfusion can be demonstrated.



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Medical Concerns

- Report
 - Anything that may interfere with flight safety
 - Drink driving episode
- Suspension ($\leq 20d$), Disqualification
 - Pregnancy: only 13⁺⁰-28⁺⁶/40, $\geq 6/52$ post partum
 - Surgery e.g. Laser eye surgery 3/12
 - MI 6/12 post definitive tx
 - Musculoskeletal problems, TIA, depression, renal stones
- Revoked
 - CVA, Migraines, Bipolar and some other psychiatric disorders, any medical condition that cannot be definitively tx





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The Ageing Pilot

- Cardiovascular risk
- Cancer risk
- Potential for cognitive decline
 - Potential for decreased reaction time
 - Potentially slower to learn new tasks
- Changes to sleep patterns





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Red Flags

- Consider medical conditions or treatments that:
 1. Result in any behavioural changes
 2. Lead to any increased risk of incapacitation
 - sudden, gradual, profound, subtle, partial etc
 3. Result in any reduction or impairment in functional capacity
 - physical, cognitive etc
 4. Lead to any reduction in the individual's capacity for decision-making, attention, or concentration
- Medications:
 - Ground trial, consider side effects
 - Ethical balance: best med vs able to fly
- Alcohol: 10h bottle to duty minimum



psychoactive drugs
antihypertensives
warfarin
sulfonylurea
alpha-blockers
steroids
anticholinergics
isotretinoids
viagra



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TAKE HOME MESSAGES

- All Doctors **must** report a medical condition or treatment that **may** interfere with Aviation Safety as soon as is practicable
- Red Flags:
 - Behavioural changes
 - Incapacitation
 - Functional Impairment
 - Reduction in Cognitive Function



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Questions?





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Contact Details

Air NZ Aviation Medicine Unit

Phone: +64 9 256 3924

MEDA Clearance enquiries

Phone: +64 9 255 7757

Fax: +64 9 336 2856

Email: MedaClearance@airnz.co.nz

Special Handling enquiries

Phone: +64 9 255 7757

Email: SpecialHandling@airnz.co.nz