

CRITICAL CARE WITHOUT LIMITS – LONG HAUL MEDEVAC USING COMMERCIAL AIRLINES

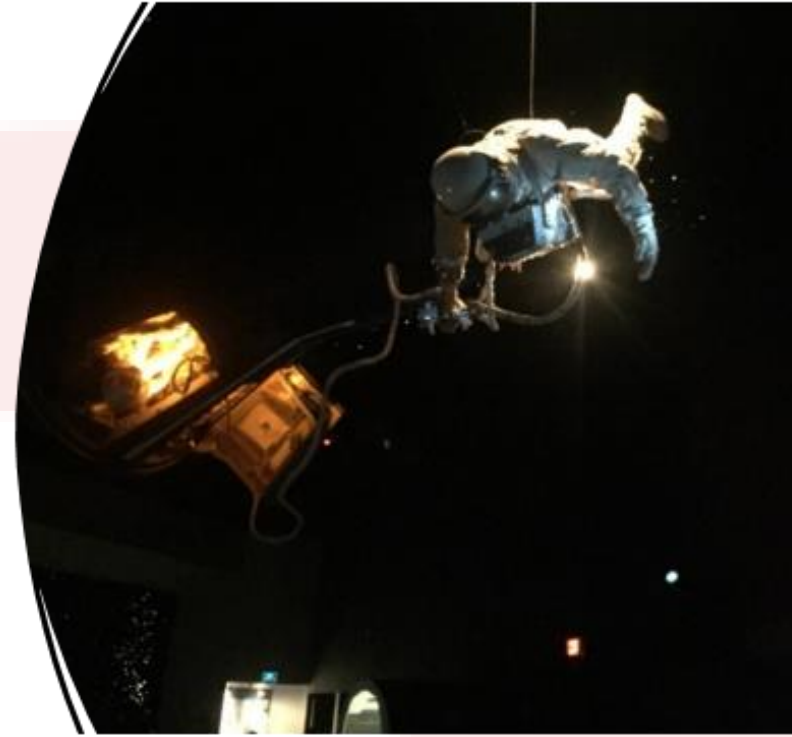


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Healthcare Group.***

Overview

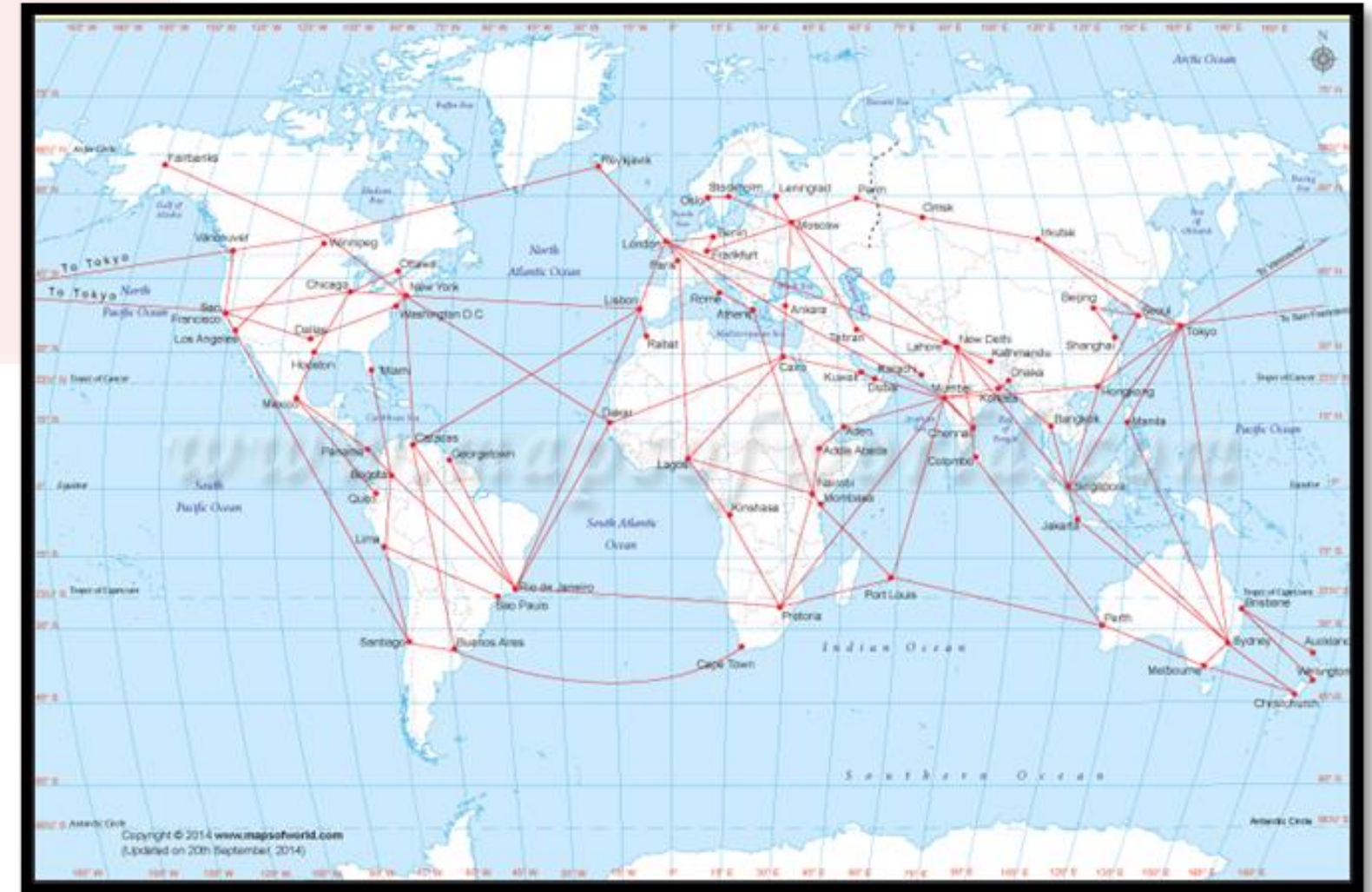
- *Introduction*
- *Definition*
- *Patient selection*
- *Advantages/disadvantages*
- *Cabin classes*
- *Logistics and equipment*
- *MEDA*
- *Don't mention the pandemic ...*

Introduction



DEFINITIONS

- **Short Haul** 1,100km-1,500km
- **Medium Haul** 1,600km – 4,000km
- **Long Haul** 4,100km-4,800km
- **Ultra-Long Haul** 4,800km and over



Patient groups

- *Fully mobile, stable “Handhold”*
- *Limited or minimal mobility.*
- *Immobile*
- *Ventilated.*



Cabin Class

- *Economy*
 - *No privacy, cramped* \$
 - *Bariatric Pts*



- *Premium Economy*
 - *No privacy, limited space* \$\$



Cabin Class

- *Business*

- Not all equal. Space. Privacy.
Some individual 'pods'

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- *First*

-Some Individual pods

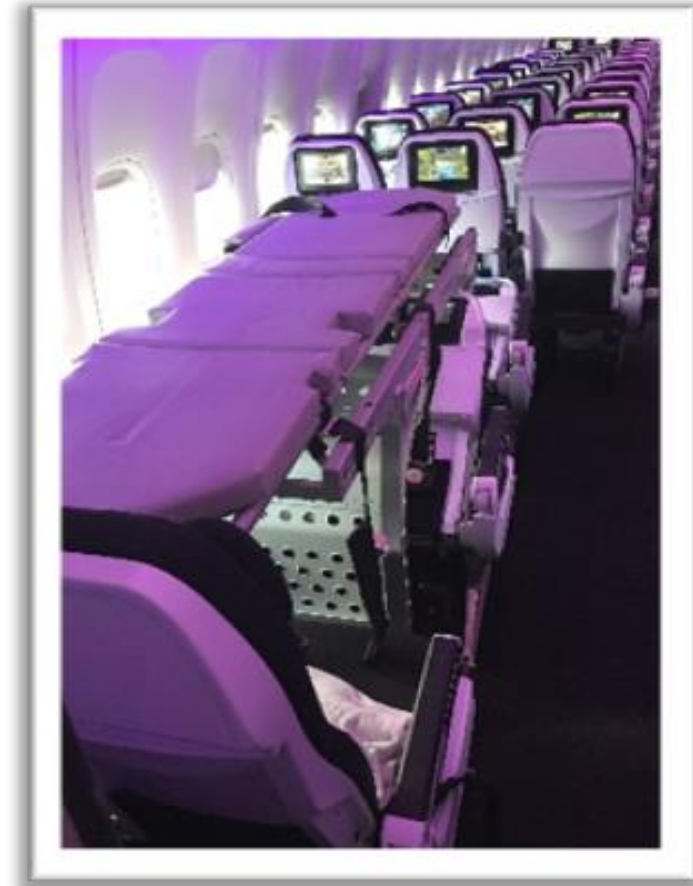
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Stretcher – EC

Stretcher \$\$\$\$\$

- *Curtains for privacy*
- *Provided by airline – narrow, firm.*
- *Limited head space.*
- *Difficult access*
- *Weight Limit*



Considerations

- *Public environment*
- *Limited privacy*
- *Disturbance to other guests*
- *Disturbance to service*
- *Medications/Time zones*
- *Family members*



NEW YORK



LONDON



ISTANBUL



NEW DELHI



Advantages of commercial LH travel.

- *Limits tech stops*
- *Shorter total transport time*
- *Use of medical centres (limitations)*
- *Pt comfort – BC/FC*
- *Staff comfort*
- *Cost vs AA*



Disadvantages of commercial LH

- *No control over routing*
- *No control over cabin pressure*
- *Limited privacy*
- *Refusal of onward travel – due to pt condition*

Other points to consider

- *Assessment often completed over phone – foreign country.*
- *Power and oxygen supplies*
- *Equipment loss or malfunction*



Mitigation

- *Prepare for worst-case scenario*
- *Tailor the team and equipment*
- *Plan for total transport time with 25-50% buffer*
- *Redundancies – non powered back up.*
- *Stand alone Chargers for batteries*



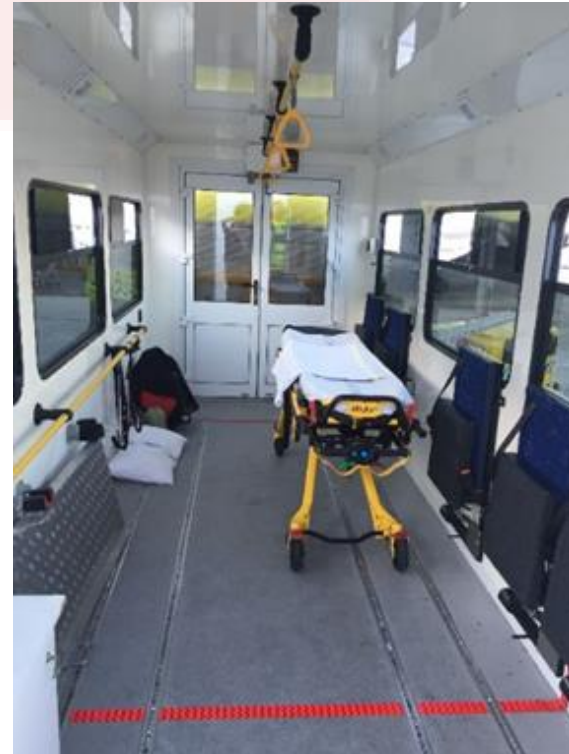
Packs and Equipment

- *Non – standard vs Standard packs*
- *Checklists*
- *Systems approach*
- *Carried by team*



MEDA/MEDIF

- *Equipment.*
- *Mobility aids*
- *Ambu Lift*
- *Oxygen*
- *Limitations – vary airline to airline*
- *Restrictions on FTF after certain events/procedures.*



Oxygen Calc

$$F1 \times P1 / P2 = F2. \text{ Nehrenz (1999).}$$

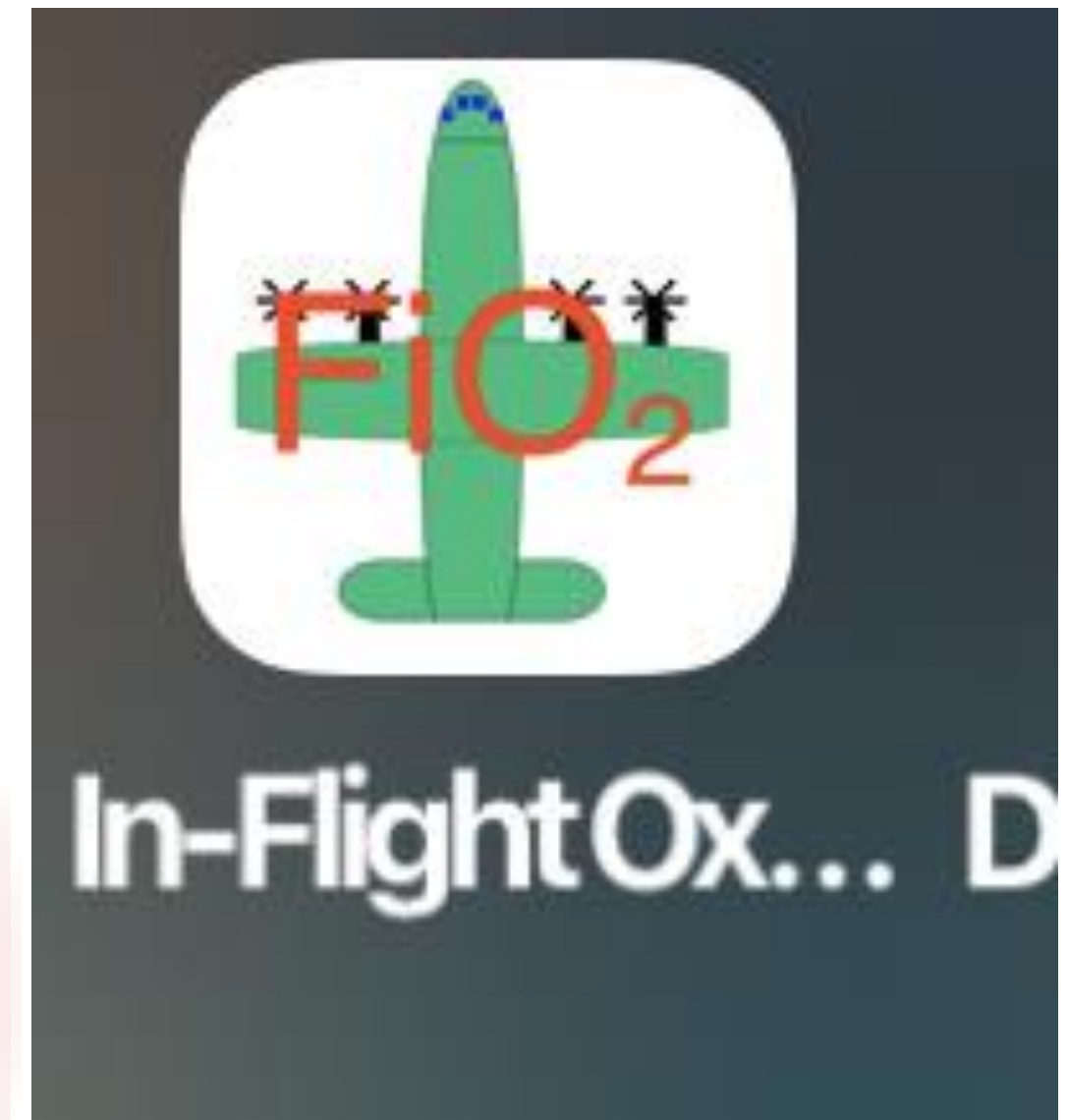
*Patient is on a ventilator with an FiO₂ 0.4 at sea level (760mmHg).
Flight conducted in cabin pressurized to 8000Ft (564mmHg). The following
equation would be used to determine the amount of oxygen required at an
altitude of 8000Ft.*

$$F1 = 0.4 \quad P1 = 760 \quad P2 = 564$$

*(0.4 x 760) / 564 = FiO₂ 0.54 or 54% . The predicted oxygen requirement for
this patient during air transport at 8000Ft would be an FiO₂ 0.54
8-9L/min with HM*

Oxygen Calc

Altitude (Feet)	Pressure (mmHg)	Effective (equivalent) Oxygen %
SL	760	20.9
1000	733	20.1
2000	707	19.4
3000	681	18.6
4000	656	17.9
5000	632	17.3
6000	609	16.6
7000	586	16.0
8000	564	15.4



DISPOSITION

- *Patient final destinations vary*
- *Assess for suitability if destination not a medical facility*
- *Best care – door to door transfer*

Thank you




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**AIR AMBULANCE
SERVICE** | *Saving Lives
IN THE South Pacific*


**SKYLINE
AVIATION**