SAVANNAH GA
RICK

- Senior AME
- ATP & Lear 60 Typed, Gulfstream G550 Typed
- 4000+ flt hours (1000+ turbine)
- Director of ID Training at MHUMC
- Past President of Savannah Aviation Association
- Honorary Medical Commander for 165th Airlift Wing
- Married 23 years!...9/24/14
- Must love dogs!!
- Sleep deprived
AN INQUIRY INTO THE CAUSES AND EFFECTS OF THE VARIOLE VACCINÆ, A DISEASE DISCOVERED IN SOME OF THE WESTERN COUNTIES OF ENGLAND, PARTICULARLY GLOUCESTERSHIRE, AND KNOWN BY THE NAME OF THE COW POX.

BY EDWARD JENNER, M.D. F.R.S. &c.

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1800.
INFECTIOUS DISEASE AND AVIATION UPDATE

- Vaccination
- Malaria Prophylaxis
- HIV and Aviators ..... Stage ... CD4 cts ..... HIV PCR V. Load
- HIV Meds .... Cognition .... Support Networks
- Contagion in the Airframe ...
VACCINATIONS
Influenza 2017 “Aged Impacts”…..Quadrivalent…..High Dose
Pneumococcal vax. Prevnar…..Pneumovax
MMR…..Live and Two Doses if no prior Documentation
Tetanus…Diptheria…Pertussis…..Tdap„„Q Decade
Hepatitis A & B….Havrix…Recombivax….Twin Rix…0, 2, & 6
Varicella…..Varivax…..ZostaVax(2006)…..single dose…..live
ShingRix: Oct. 2016 Two doses particulate/adjuvant
Polio….Inject.IPV…single dose
Typhoid….oral(live)….Inject.
Yellow Fever…..certification…extended stays…entry requirements
GOT ZOSTAVAX YET??

- Fifty years and older
- Non-compromised hosts…it’s a LIVE virus
  - Prior shingles
    - No steroids on board > 1-2 months
    - No HIV nor Active Oncologic hosts
  - Secondary contagion to household contacts are “academic”
RICHARD DOTSON
BORN MARCH 21, 1797
DIED MARCH 29, 1884
AGED 87 YEARS
AT REST
MALARIA PROPHYLAXIS

- Primaquine
- Doxycycline
- Mefloquine
- Chloroquine
- Quinine
- Malarone (Combo Agent…Atavoquone+Proguanil)

Single Tablet formulation  250/100

1-2 days BEFORE then 7 days post travel
HIV MARKERS...SURROGATES

- CD4 counts
- AIDS defining below 200
- OI window likely below 400
- HIV PCR Quant. Viral Load...limits of detection
- Undetectable...<20...<400...”blips”
- HIV Screening HIV ½.....EIA...West. Blot
- Indeterminants
Antiretroviral drug chart

<table>
<thead>
<tr>
<th>Drug Name</th>
<th>Drug Class</th>
<th>Similar Drugs</th>
<th>Side Effects</th>
<th>Dosage</th>
<th>Administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tenofovir</td>
<td>Nucleoside</td>
<td>Lamivudine</td>
<td>Nausea, Diarrhea</td>
<td>Tablet</td>
<td>Oral</td>
</tr>
<tr>
<td>Didanosine</td>
<td>Nucleoside</td>
<td>Zidovudine</td>
<td>Rash, Fatigue</td>
<td>Tablet</td>
<td>Oral</td>
</tr>
<tr>
<td>Efavirenz</td>
<td>Non-Nucleoside</td>
<td>Nevirapine</td>
<td>Headache, Dizziness</td>
<td>Tablet</td>
<td>Oral</td>
</tr>
</tbody>
</table>

This chart provides an overview of common antiretroviral drugs, their side effects, and dosage instructions.
HIV MEDS

- nRTIs......AZT....3TC....DDI...D4T....etc
- nnRTIs......Efarinez...Viramunne....Sustiva
- Pls.......Reyataz....Kaletra....Prezista....Crixivan....Norvir
- Combo “backbones”.....Combivir....Epzicom....TRUVADA
- HAART.....2 plus 1 ......equals “HAART”
- IDSA.....NIH.....2012 Initiation Guidelines.....EVERYONE STARTS!
- Single Tabs HAART.....ATRIPLA>>>COMPLERA>>>STŘIBILD
SUSTIVA & ATRIPLA

- Efiranez.....nnRTI.....non-nucleoside
- CNS effects
- Sedation
- Cognitive “fog”
- PM qHS dosing without food
- Truvada + Sustiva == ATRIPLA
- Viread + Emtriva === Truvada
- Viread + Emtriva + Sustiva == ATRIPLA
- NOT in COMPLERA nor STRIBILD
POST EXPOSURE ISSUES

- Seroconversion Data
- Needle Stick from known source 1 in 400...hollow bore data
- Post Exposure Prophylaxis...Basic...expanded
- High Risk Negative HIV host....chronic prophylaxis

Serologic Survey:
- Baseline.....Hepatitis Profile....RPR....LFTS....HIV Screen
- Six Weeks.....95%
- Three months.........99%
- Six months.................100%
- Barrier protection duration
GREY BIRD 333  (GIII)
10-50% of cabin air circulated mixed with outside air since 1980s

Recirculated Air filtered 20-30x/hour

FYI…Negative Pressure Hospital Room SIX changes/hour

Newer models use HEPA filtration…ie-0.1-0.3 microns

Airflow now is in “limited banding” on commercial airframes
- ie-bandung prevents longitudinal airflow
- Larger commercial airframes are NOT conducive to spread contagion
PRIVATE AIRFRAMES AND CONTAGION

- Outflow valves usually in cockpit (frontward) location
- High bleed air requirements may cost more in performance
- Part 91 –vs- Part 135 or 121 decontamination/cleaning policies
- MRSA and supplemental Oxygen mask rules at Flight Levels
- International variability….exotic locale…..medical transport
- Poor infection control standardization
- Blood and Body Fluid exposures
THE ONLY MYSTERY IN LIFE IS WHY THE KAMIKAZE PILOTS WORE HELMETS.
MRSA
DECOLONIZATION

- Hibeclens (Chlorhexidine)
- Bactroban/Muciprocin
- Altabax/Retapamulin
- Household items
- Hand hygiene
- IQ
- Pets
CASE REPORTS

- SARS……20 pts from one center isle index case
- Norovirus….potable water sources
- Bioterrorism hypotheticals
- Emerging Concerns…EBOLA…Pertussis….Measles…Polio
- Active TB case……PPD conversion….no smear + sequelae
  - HIV+ with Cavitary Smear + Disease
  - US attorney Smear + MDR-M.Tb
  - Contact Tracing…..PPD….IGRA Screening very effective
“RIP”
EBOLA TIMELINE 1976---2014

Ebola virus outbreaks

Yearly total cases | Deaths | No reported cases

Figures as of 27 July 2014
Source: WHO
“BAT MEAT” SOUP
NOT AIRBORNE (AT PRESENT)
FACTS – VS-FEAR

- Fear spreads quicker than Infection!!
- No Airborne transmission documented
- Sherriff north of Dallas that was in Duncan’s apt….Neg PCR
- Canine acquisition does occur…..carrier state only…Bats…etc
  - Excaliber..12 y/o rescue euthanized 10/8
- Case Fatality Ratio near 80% even in the best facility
- Biologics and Anti-Virals in rapid R & D phase
- Infectious Pathogens don’t follow politics!!!
  - US response remains in flux and reactive in nature