Aerotoxic Syndrome: Aircraft involved in contaminated cockpit/cabin air exposures and related symptoms in 11 patients referred for review in a specialist clinical toxicology outpatient service

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Aerotoxic Syndrome

- Aircraft pressurisation typically occurs by using ‘bleed air’
- Contamination of this is reported to cause ‘Aerotoxic Syndrome’
  - Most reports related to Avro Jet / Bae 146 / Boeing 757
- Great interest in lay media / support groups on clinical features

We have been referred 11 (8 male) patients with suspected Aerotoxic Syndrome
- Mean ± SD age: 45 ± 8 years
- Cockpit crew (9), cabin crew (1), flying passenger (1)
- ≥1 single events in 6 patients
- 8 reported ‘prolonged exposure’ (3 months to 8 years)
<table>
<thead>
<tr>
<th>Type</th>
<th>Aircraft involved</th>
<th>Number of patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private business jets</td>
<td>BAe ATP</td>
<td>3</td>
</tr>
<tr>
<td>Regional turbo-props</td>
<td>Avro Jet/Bae 146</td>
<td>2</td>
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<tr>
<td>Regional jets</td>
<td>Boeing 737/757</td>
<td>3</td>
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<tr>
<td></td>
<td>Airbus A319/320/321</td>
<td>4</td>
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<tr>
<td>Narrow-body jets</td>
<td>Boeing 747/767/777</td>
<td>4</td>
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<td>Airbus A330/340</td>
<td>1</td>
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</tbody>
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**Frequency of Reported Symptoms (n=11)**

- Memory problems: 7
- Dizziness/lightheadness: 6
- Nausea/vomiting: 5
- Neurological symptoms: 4
- Respiratory symptoms: 3
- Irritability: 2
- Insomnia: 2
- Flu-like symptoms: 1
- Palpitations: 1
- Headache: 1
Discussion

- Aerotoxic Syndrome referrals to our specialist toxicology outpatient clinic are infrequent
- No consistency with lay media reports of aircraft involved
- Symptoms reported by those affected are non-specific
  - Not consistent with exposure to one specific toxin
  - Unlikely that symptoms relate to OP exposure
- Larger cohort and analytical studies are needed to
  - Identify exposure(s) occurring during normal flight and confirmed ‘contaminated air events’
  - Characterise clinical features
  - Determine whether features are consistent with exposure(s)