Outline

• Current Standards
  – SSRI
  – CBT
  – Prevention with CBT

• Neuroscience
  – Extinction Training
  – Attention Retraining
Outline

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# Meta-Analysis: Rates of Improvement

<table>
<thead>
<tr>
<th>Study</th>
<th>Difference</th>
<th>PBO</th>
<th>SSRI</th>
</tr>
</thead>
<tbody>
<tr>
<td>RUPP Anxiety Study (2001)</td>
<td>47%</td>
<td>29%</td>
<td>76%</td>
</tr>
<tr>
<td>Birmaher et al. (2003)</td>
<td>25%</td>
<td>36%</td>
<td>61%</td>
</tr>
<tr>
<td>Rynn et al. (2001)</td>
<td>80%</td>
<td>10%</td>
<td>90%</td>
</tr>
<tr>
<td>Wagner et al. (2004)</td>
<td>40%</td>
<td>38%</td>
<td>78%</td>
</tr>
<tr>
<td>Walkup et al. (2008)</td>
<td>31%</td>
<td>24%</td>
<td>55%</td>
</tr>
<tr>
<td>Rynn et al. (2007)</td>
<td>12%</td>
<td>24%</td>
<td>36%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>30%</strong></td>
<td><strong>31%</strong></td>
<td><strong>61%</strong></td>
</tr>
</tbody>
</table>

NNT=3.3
The CAMS Study

Treatment – Anxiety vs. MDD

- **Response rates**
  - Higher in anxiety than MDD

- **Relapse**
  - Higher in MDD than anxiety

- **Implications for prevention**
  - CBT in at-risk groups?
Antidepressants and Thoughts About Suicide

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Odds Ratio (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children</td>
<td>2.22 (1.40–3.60)</td>
</tr>
<tr>
<td>18–24 yr</td>
<td>1.55 (0.91–2.70)</td>
</tr>
<tr>
<td>25–30 yr</td>
<td>1.00 (0.60–1.69)</td>
</tr>
<tr>
<td>31–64 yr</td>
<td>0.77 (0.60–1.00)</td>
</tr>
<tr>
<td>≥65 yr</td>
<td>0.39 (0.18–0.78)</td>
</tr>
<tr>
<td>All adults</td>
<td>0.84 (0.69–1.02)</td>
</tr>
</tbody>
</table>

**Figure:** Graph showing the odds ratios for antidepressants being better than placebo in different age groups. The graph illustrates the risk of suicide thoughts among children and adults, with the highest risk observed in younger children.
Conclusions

- SSRIs are very effective in the treatment of pediatric anxiety.
- Of the SSRIs, only fluoxetine and citalopram have been clearly shown to be effective in pediatric MDD.
- Increased risk of suicidality with SSRI treatment is real, but the magnitude of the effect is small.
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Amygdalar Activation

Exposure to Fearful Face

Amygdala hyperactivity in adult MDD and anxiety

Breiter et al. 1996; Whalen et al. 1998

Bilateral Amygdala Activation
Extinction Recall: Remembering the Boundary Between Danger and Safety

Ressler & Davis 2003
NMDA manipulations? Ressler & Davis 2003
VISUAL CORTEX

VISUAL THALAMUS

AMYGDALA

HEART RATE

BLOOD PRESSURE

MUSCLE

Attention Retraining Therapy

Training of Attention

Altered Response to Stress

Eldara, Ricona, & Bar-Haim in press
Randomized Controlled Trial

**Four-Week Treatment Outcomes in Pediatric Anxiety Disorders**

Tel-Aviv University/National Institute of Mental Health

Attention Bias Modification Treatment

http://tau.ac.il/~yair1/index.html

Screened 117 children

n=71 identified

n=40 with Pre-Treatment Bias Towards Threat
Randomized Controlled Trial

Four-Week Treatment Outcomes in Pediatric Anxiety Disorders

Eldar et al. in press
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