The Non affective psychoses.

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IV year teaching, 2011.
• **Goals**

  • **Know:**
    - The classification of non affective psychoses
    - The incidence, risk, aetiology and natural history of the non affective psychosis.
    - The treatments available.

  • **Understand**
    - The experience of psychosis
      - Patients
      - Caregivers.
    - The problems low motivation and impaired insight cause.
John.

- 20 year old farm labourer.
- Admitted after attack.
  "I hit him because his eyes were red and he had a devil in him. I had to let the devil out”
- Noted by fellow workers to be distracted.
- Is not playing rugby this year “which is not Jon”. 
Symptom groups (from Andreason, 1995)

<table>
<thead>
<tr>
<th>Cognitive system</th>
<th>Schizophrenia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perception</td>
<td>Positive</td>
</tr>
<tr>
<td>Inferential thinking</td>
<td>Hallucinations</td>
</tr>
<tr>
<td>Language</td>
<td>Delusions</td>
</tr>
<tr>
<td>Behavioural monitoring</td>
<td>Disorganised speech</td>
</tr>
<tr>
<td></td>
<td>Formal thought disorder</td>
</tr>
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<td></td>
<td>Disorganised, bizarre behaviour</td>
</tr>
<tr>
<td>Conceptual fluency</td>
<td>Alogia</td>
</tr>
<tr>
<td>Emotional Expression</td>
<td>Affective blunting</td>
</tr>
<tr>
<td>Experiencing pleasure</td>
<td>Ahenodia</td>
</tr>
<tr>
<td>Volition (“will”)</td>
<td>Avolition</td>
</tr>
</tbody>
</table>
Hallucinations.

- A false perception.
- Experienced as real.
- No underlying object.

Auditory
- Noises.
- Voices
  - Single or multiple
  - Known or unknown
  - Commands, derogatory comments.
  - Talking about pt. in third person.
Hallucinations II

- **Visual**
  - Intensity colours.
  - Part of visual field
  - Whole visual field.
- **Smell**
  - Freq. experienced as disgusting.
- **Taste**
  - Rare except epilepsy
- **Touch**
  - **Formication,** (feeling insects under skin). Often intoxication/withdrawal.
Delusions.

- A delusion is a belief that is:
  - **FALSE**
  - **FIXED**
  - **UNEXPLANABLE** by cultural or religious context.

- A primary delusion can be a sudden insight and lead to secondary delusions.

- A delusion does not have to be bizarre.
Delusions II

- Common non bizarre.
  - Persecution.
  - Jealousy.

- Common bizarre.
  - Reference (messages or codes in text, radio, video).
  - Passivity (thought insertion, thought withdrawal, telepathy)
  - Possession (thoughts or actions controlled by others).
Disorganised Speech

- Paucity of speech
- Loss of associations
- Loosening of associations and loss of goal.
- Non sequiters
- Neologisms
TEST YOURSELF: Slang or Thought Disorder?

1. Friends say I am less intimate, but whether I am or not isn’t my rhubarb
2. There’s been a residual reduction in intimacy
3. I’ve just been spending my time rinsing the Pringles
4. Non-lethargic. I don’t feel too lethargic. I don’t feel as if I’ll be reaching a state of lethargicness
5. I fell behind at work and was playing Heinz
6. The treatment—that’s radical
7. Since this started I’ve become an omni
8. I bumped my head, which left a coco describing the result of a minor head injury
9. I’ve been pixelated since starting the medication
10. I spend my time chronocolising

Answers Only speech samples 2, 4, and 10 are rated as evidence of thought disorder on the thought and language index. All the other examples were appropriate use of slang words. The definitions from urbandictionary.com are: 1. rhubarb Def 3. n- a dispute or fight; 3. rinsing Def 6: v- to use/consume something a lot (Pringles is a brand of potato chips); 5. Heinz Def. 7: n- catch-up (from the rhyme with Heinz ketchup); 6. radical Def. 1: adj- impressive or good; 7. omni Def. 4: n- man of little or no skill; 8. coco Def. 1: n- a large lump; 9. pixelated Def 20: adj- incredibly tired.
Negative syndrome.

- Amotivation
  - Inability to act on decisions.
- Ambivalence
  - Inability to make consistent decision.
- Disorganization
- Decrease in social & occupational function.
- Despair and depression.
John says.

- Over last six months has been hearing voices.
- Two people, talking about him.
- Three days ago this happened when he was meeting a friend who had red eyes. The friend said they were because his contacts were irritating him.
- Jon suddenly believed that this meant his friend was possessed by the devil, and he had to break his bones to let the devil out.
John's Mum says.

- Struggled at school.
- Was a keen rugby player and usually popular
- Never in trouble.
- Has been working on farms for last three years, and enjoys it.
- Has been different last 10 months. Worried he may be using drugs.
• John's Boss says.

• Used to be a good worker, pleasant, liked.

• Now picking arguments.

• Last month has been late to work. Never used to be late to work.

• Is on final warning.
• At interview.
  • Untidy. Unwashed. Unwilling to talk. Gait normal.
  • Speech normal rate.
  • Emotional range (affect) restricted and at one point giggling when describing what he did to his friend.
  • Says mood OK, but seems excited.
  • Does not know why he is here.
Prevalence.

- About 1% of the population have a non-affective psychosis.
  - About 0.1% develop a psychotic disorder every year.
- The rate of psychosis is increased:
  - In poor & central urban areas.
  - In certain ethnic and familial groups.
  - Among indigenous groups and immigrants who have poor intergenerational adjustment to the dominant culture.
  - Among winter births.
Australian low prevalence survey.

- 1030 / 1126 people selected case registers.
- 53% had schizophrenia confirmed diagnostic interview.
- Male onset earlier schizophrenia but not other psychoses.
Aetiology.

- Genetic.
  - Dyslipidin – Dopamine.
- Environment.
  - Infective
  - Toxic
    - Cannabis
    - Adverse events.
- Gene-environment.
- Schizotaxis and other epigenetic traits.
Maternal starvation.

- During periods of famine.
  - Holland, “A bridge too far”, 1944

- Birth rate decreases.
- Death rate children increases
- The prevalence of schizophrenia in the adult survivors increases.
### Table 3. Risk for Schizophrenia for Years 1956 Through 1965 in Wuhu and Surrounding Counties*

<table>
<thead>
<tr>
<th>Year</th>
<th>Cases</th>
<th>No. of Births</th>
<th>Unadjusted Risk, %</th>
<th>Mortality Estimate, %†</th>
<th>Adjusted Risk, %</th>
<th>Adjusted RR (95% CI)†</th>
<th>χ²</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1956</td>
<td>483</td>
<td>59088</td>
<td>0.82</td>
<td>20</td>
<td>1.02</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>455</td>
<td>66210</td>
<td>0.67</td>
<td>20</td>
<td>0.83</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1958</td>
<td>307</td>
<td>49037</td>
<td>0.63</td>
<td>20</td>
<td>0.78</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1959</td>
<td>197</td>
<td>36251</td>
<td>0.54</td>
<td>35</td>
<td>0.84</td>
<td>0.69 (0.78-1.03)</td>
<td>2.34</td>
<td>.13</td>
</tr>
<tr>
<td>1960</td>
<td>192</td>
<td>13748</td>
<td>1.40</td>
<td>35</td>
<td>2.15</td>
<td>2.30 (1.99-2.65)</td>
<td>128.8</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>1961</td>
<td>191</td>
<td>16339</td>
<td>1.18</td>
<td>35</td>
<td>1.81</td>
<td>1.93 (1.68-2.23)</td>
<td>60.68</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>1962</td>
<td>536</td>
<td>75385</td>
<td>0.71</td>
<td>20</td>
<td>0.80</td>
<td>0.65 (0.87-1.04)</td>
<td>1.15</td>
<td>.28</td>
</tr>
<tr>
<td>1963</td>
<td>779</td>
<td>81674</td>
<td>0.95</td>
<td>5</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1964</td>
<td>762</td>
<td>78437</td>
<td>0.97</td>
<td>5</td>
<td>1.02</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1965</td>
<td>895</td>
<td>83536</td>
<td>0.83</td>
<td>5</td>
<td>0.88</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1956-1958 and 1963-1965</td>
<td></td>
<td></td>
<td>0.83</td>
<td></td>
<td>0.93</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Abbreviations: CI, confidence interval; RR, relative risk.

*Because detailed mortality data were not available for all the years spanned by the study, statistics using survival analysis methods could not be performed. To adjust for differential mortality, we calculated the number of individuals in each birth cohort surviving childhood. These estimates were derived from the 1962 and 1988 population surveys for the whole of Anhui province. Minimal inter- or outward migration took place until very recently. Both surveys gave breakdowns of the age distribution of the population for the respective survey years. Data were given in 4-year age groupings. Data were not available for individual years or for individual counties. The 4-year time frames differed between the 2 sets of data, so when calculating mortality for each birth cohort, we made estimates that were compatible with both sets of data. Since the figures in both surveys were similar, we are confident that the estimates of mortality are broadly correct. They are conservative estimates because overall mortality during the famine was higher in the Wuhu region than in Anhui as a whole.

†Cumulative mortality by 1988.


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Dysbindin. The schizophrenia susceptibility gene dystrobrevis-binding protein 1 (DTNBP1) encodes dysbindin, along with Muted is an essential component of the biogenesis of lysosome-related organelles complex 1 (BLOC-1). Recent work shows modulates dopamine expression.

NRG1 in the Icelandic population & 2 UK samples a study of 8p21-22 revealed association between schizophrenia and a multimarker haplotype known as HAPICE. There is evidence that genetic variation in NRG1 confers risk to schizophrenia.
G72 (DAOA)/G30. This was found by association mapping in the linkage region on chromosome 13q22-34 in French Canadian and Russian populations. Associations between schizophrenia and markers in and around DAOA have subsequently been reported by a number of groups but there are varying results.

DISC-1. This gene was implicated through studies of an extended pedigree in which a balanced chromosomal translocation (1;11) (q42;q14.3) showed strong evidence for linkage to a fairly broad phenotype comprising schizophrenia, bipolar disorder, and recurrent depression. The translocation was found to disrupt 2 genes on chromosome 1: DISC1 and DISC2.
Figure 2. Effects of dopamine stimulation on cell surface levels of DRD2 in DTNB1 siRNA transfected SH-SY5Y cells


- Finland has national register all patients.
- 290 patients DSM IV schizophrenia
  - 157 multiplex families
  - 133 singleton families.
- Standard interview, analysis symptom factors
4 generation genogram multiplex family
Substances.

Substance abuse can be worsen or precipitate the development of psychosis (THC, stimulants)

Substance use can be self medication for side effects (eg. Nicotine for bradyphrenia)

Substances can interfere with medicines.
<table>
<thead>
<tr>
<th>Study</th>
<th>Sample</th>
<th>Assessment</th>
<th>Outcome measure</th>
<th>Adjusted association between cannabis and psychosis (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andreasson et al</td>
<td>45,570 male Swedish military conscripts aged 18-21</td>
<td>At 15 year follow-up</td>
<td>Clinical diagnosis of schizophrenia</td>
<td>Highest level at use: Relative risk 2.3 (1.0 to 9.3)</td>
</tr>
<tr>
<td>Arsenault et al</td>
<td>759 members of New Zealand birth cohort</td>
<td>At age 26</td>
<td>DSM-IV criteria for schizophreniform disorder</td>
<td>Cannabis users by age 15: Odds ratio 1.95 (0.70 to 5.01)</td>
</tr>
<tr>
<td>Caspi et al</td>
<td>803 members of New Zealand birth cohort</td>
<td>At age 26</td>
<td>DSM-IV criteria for schizophreniform disorder</td>
<td>Participants with Val/Val variant of COMT gene: Odds ratio 10.9 (2.2 to 54.1)</td>
</tr>
<tr>
<td>Fergusson et al</td>
<td>1,055 members of New Zealand birth cohort</td>
<td>At age 25</td>
<td>No of psychotic symptoms in past month</td>
<td>Daily cannabis users; Incident rate ratio-1.77 (1.28 to 2.44)</td>
</tr>
<tr>
<td>Henquet et al</td>
<td>2,437 German participants aged 14 to 24</td>
<td>At baseline and four year follow up</td>
<td>At least one &quot;broad&quot; or two &quot;narrow&quot; psychosis outcomes</td>
<td>Daily cannabis users: Odds ratio 2.23 (1.30 to 3.84)</td>
</tr>
<tr>
<td>van Os et al</td>
<td>4,104 participants in Dutch general population study</td>
<td>Assessed three times over four years</td>
<td>1 positive rating on psychotic symptom items</td>
<td>Highest level of use: Odds ratio 6.81 (1.79 to 25.92)</td>
</tr>
</tbody>
</table>
Cannabis and COMT gene variation.

The influence of adolescent-onset cannabis use on adult psychosis is moderated by variations in the COMT gene.

(A) The percentage of individuals meeting diagnostic criteria for schizophreniform disorder at age 26.

(B) Means (and standard errors) on age-26 self-reports of symptoms of psychosis (hallucinations and delusions).

(C) The percentage of individuals reporting at least one hallucination experience at age 26.

(D) The percentage of individuals reporting at least one delusional belief at age 26.

(E) Means (and standard errors) on age-26 informant reports of symptoms of psychosis.
Natural history

- Precursor & Risk factors (discussed later).
- Prodrome
- First episodes.
- Continuation of course
  - Recovery
  - Relapse and recovery
  - Ongoing disability.
- Long term outcome
The prodrome

- Prior to first presentation.
- Merges into period of untreated psychosis.

Phenomena described in prodrome I

"Neurotic" symptoms
- Anxiety,
- Restlessness
- Anger, irritability.

Mood-related symptoms
- Depression,
- Anhedonia,
- Guilt,
- Suicidal ideas,
- Mood swings

Changes in volition
- Apathy, loss of drive
- Boredom, loss of interest
- Fatigue, loss of energy

Cognitive changes
- Disturbance of attention, inability to concentrate
- Preoccupation, daydreaming
- Thought blocking,
- Reduced abstraction
Phenomena in prodrome II

- Physical symptoms
  - Somatic complaints
  - Loss of weight
  - Poor appetite
  - Sleep disturbance

- Behavioral changes
  - Deterioration in school, work, or other role functioning
  - Social withdrawal
  - Impulsivity
  - Odd behavior
  - Aggressive, disruptive behavior

- Other symptoms
  - Obsessive compulsive phenomena
  - Dissociative phenomena
  - Increased interpersonal sensitivity
  - Change in sense of self, others, or the world
  - Change in motility
  - Speech abnormalities
  - Perceptual abnormalities
  - Suspiciousness
  - Change in affect
Prodrome (ultra high risk group)

- require that a young person be aged between 14 and 29 years,
- is referred for help to a clinical service and meets criteria for one or more of the following groups:
  - **Attenuated Psychotic Symptoms Group**: have experienced subthreshold, attenuated positive psychotic symptoms during the past year;
  - **Brief Limited Intermittent Psychotic Symptoms Group (BLIPS)**: have experienced episodes of frank psychotic symptoms that have not lasted longer than a week and have spontaneously abated;
  - **Trait and State Risk Factor Group**: have schizotypal personality disorder or a first degree relative with a psychotic disorder and have experienced a significant decrease in functioning during the previous year.
Multivariate Proportional Hazards Regression Results Within Domains of Predictor Variables

<table>
<thead>
<tr>
<th>Predictor Domain</th>
<th>Individual Predictor Variables</th>
<th>No. of Patients</th>
<th>$\chi^2$ Test</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demographics</td>
<td>Baseline year</td>
<td>291</td>
<td>9.32</td>
<td>.002</td>
</tr>
<tr>
<td>Genetic risk</td>
<td>Psychosis in first-degree relatives with functional decline</td>
<td>291</td>
<td>10.37</td>
<td>.001</td>
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<tr>
<td>Positive symptoms</td>
<td>Unusual thought content</td>
<td>291</td>
<td>7.10</td>
<td>.008</td>
</tr>
<tr>
<td></td>
<td>Suspicion/paranoia</td>
<td>291</td>
<td>7.97</td>
<td>.005</td>
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<td></td>
<td>Disorganized communication</td>
<td>291</td>
<td>10.97</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Negative symptoms</td>
<td>Social anhedonia</td>
<td>287</td>
<td>3.24</td>
<td>.07</td>
</tr>
<tr>
<td></td>
<td>Reduced ideational richness</td>
<td>285</td>
<td>12.21</td>
<td>&lt;.001</td>
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<tr>
<td>Disorganization symptoms</td>
<td>Bizarre thinking</td>
<td>287</td>
<td>6.51</td>
<td>.004</td>
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<tr>
<td></td>
<td>Difficulties with concentration</td>
<td>286</td>
<td>3.36</td>
<td>.07</td>
</tr>
<tr>
<td>General symptoms</td>
<td>Reduced tolerance to stress</td>
<td>286</td>
<td>7.92</td>
<td>.005</td>
</tr>
<tr>
<td>Functioning</td>
<td>Social function at baseline</td>
<td>290</td>
<td>8.63</td>
<td>.003</td>
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<tr>
<td></td>
<td>General function at baseline</td>
<td>281</td>
<td>5.51</td>
<td>.02</td>
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<tr>
<td></td>
<td>Decline in role functioning in past year</td>
<td>290</td>
<td>3.51</td>
<td>.06</td>
</tr>
<tr>
<td></td>
<td>Decline in social, role, or psychological functioning in past year</td>
<td>290</td>
<td>4.81</td>
<td>.03</td>
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<tr>
<td>Drug abuse</td>
<td>Any drug abuse</td>
<td>270</td>
<td>4.99</td>
<td>.03</td>
</tr>
<tr>
<td>Antipsychotic drugs</td>
<td>Antipsychotic drugs during follow-up</td>
<td>287</td>
<td>3.71</td>
<td>.05</td>
</tr>
</tbody>
</table>

*a No variables in the 7 diagnostic comorbidities domain (Table 2) contributed significantly to psychosis risk.

Ongoing course.

- Rule of thirds.
  - One third get better:
    - Generally reclassified as schizophreniform, substance induced, or mood related
  - One third stay roughly the same.
    - Ongoing disability
    - Relapsing course.
  - One third get worse
    - Continuous and progressive disability “dementia praecox”.

The phenomena at first presentation do NOT predict outcome.
Prognosis

- Good prognosis:
  - Older at first onset
  - Female
  - Rapid onset (limited duration of untreated psychosis).
  - No co occurring substance, mood or personality disorders.

- Poor prognosis:
  - Young at first prognosis.
  - Male, urban, minority ethnic group.
  - Substance use (stimulants, hallucinogens, cannabis)
  - Head injury, epilepsy, intellectual impairment.
  - Chaotic and highly emotionally charged family.
<table>
<thead>
<tr>
<th>Category</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>All cause</td>
<td>2.98</td>
<td>1.75</td>
</tr>
<tr>
<td>Unnatural</td>
<td>8.6</td>
<td>3.71</td>
</tr>
<tr>
<td>accident</td>
<td>3.3</td>
<td>2.36</td>
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<tr>
<td>suicide</td>
<td>42.47</td>
<td>93.11</td>
</tr>
<tr>
<td>Natural</td>
<td>2.31</td>
<td>1.18</td>
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<tr>
<td>CVS</td>
<td>2.01</td>
<td>0.83</td>
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<tr>
<td>CVA</td>
<td>0.87</td>
<td>0.38</td>
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<tr>
<td>GI</td>
<td>5.28</td>
<td>6.94</td>
</tr>
<tr>
<td>Endocrine</td>
<td>5.5</td>
<td>5.34</td>
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<tr>
<td>Infective</td>
<td>4.56</td>
<td>3.11</td>
</tr>
<tr>
<td>Respiratory</td>
<td>4.01</td>
<td>2.56</td>
</tr>
</tbody>
</table>

Sasha, Arch Gen Psych 2007.
Neuroanatomical changes.

- There is a loss of grey matter. The normal dendritic pruning may be excessive in patients with schizophrenia.
  - This occurs in patients who have not had medications.
  - This occurs in patients who develop early onset (child onset) schizophrenia.
Progression of Cortical Gray Matter (GM) Loss in Childhood-Onset Schizophrenia (COS) (n = 70, 162 scans) Relative to Age-, Sex-, and Scan Interval-Matched Healthy Controls (n = 72, 168 Scans) From Adolescence to Young Adulthood (age 12-24 years)
Evoked potentials.

- Auditory and visual evoked potential (P300) is decreased in patients with schizophrenia.
- The auditory and visual P300 seem to be impaired also in:
  - bipolar affective disorder,
  - attention-deficit hyperactivity disorder,
  - substance use disorders
Assessment.

MODIFY history.
- Delusions may distort history.
- Thought disorder may mean speech un-understandable.
- Thus, use collateral information.

DETAIL mental state.
- Emphasis on:
  - Rapport, movements, appearance.
  - Talk and thought.
  - Delusions and hallucinations: Psychotic thoughts self harm
  - Depression, despair, suicidality.

Physical examination.
- One third will have some neurological signs.
- One third will have a serious physical condition.
Assessment II

- Disability.
  - Work & Study.
  - Accommodation: consider caregiver exhaustion.

- Social.
  - Activities (including isolation or NONE).
  - Partner, spouse, whanau.
  - Financial and legal difficulties.

- Substances
  - Nicotine, caffeine (Universal, & interact anti-psychotics).
  - Alcohol, cannabis, stimulants.
Management.

- Place of treatment.
- Biological
  - Medication.
  - Substance management.
- Psychological support.
  - Psychoeducation.
  - Family Therapy.
  - CBT for psychosis.
- Rehabilitation
  - Work
  - Recovery, clubhouse.
Place treatment.

- Acutely, determined primarily by RISK.
  - Home, family.
  - Supported (acute) care
  - Inpatient unit.

- Long-term, determined by disability and NEED.
  - Independent
  - Support from family.
  - Supported accommodation
  - Long term rehabilitation ward.
Medication.

- Monotherapy.
- Newer “atypical” or Second generation (SGA).
  - Decrease incidence dystonia, tardive dyskinesia.
  - Improve negative and cognitive symptoms.
- In general, 6 to 8 week trial of medication at adequate dose before assess (in)effectiveness.
Acute problems with antipsychotics.

- **Dystonia.**
  - Sudden spasm of muscles
    - Larynx (emergency: Rx cogentin 2 mg IV stat.)
    - Oculogyric crisis.

- **Akathisia**
  - Internal feeling of restlessness, agitation.
  - Tremor, pacing.

- **Parkinsonism**
  - “mask like” face.
  - Fine tremor.
  - Increased tone with “cog wheeling”
  - Micrographia (small handwriting).
Chronic problems with antipsychotics.

- Metabolic syndrome.
  - Weight gain.
  - Hypertension, hypercholesterolaemia, Diabetes.
  - Increased risk cardiovascular disease.
  - Probably WORSE with SGA.

- Tardive dyskinesia.
  - Choreoathetoid invol. movements.
    - Limbs, Trunk, Mouth, face.
  - WORSE with FGA
Antipsychotics available in New Zealand.

<table>
<thead>
<tr>
<th>Antipsychotic</th>
<th>Dose range</th>
<th>First Episode</th>
<th>Later Episodes</th>
</tr>
</thead>
<tbody>
<tr>
<td>SGA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>risperidone</td>
<td>0.5 – 2.5 mg./d</td>
<td>2 – 10 mg./d</td>
<td></td>
</tr>
<tr>
<td>quetiapine</td>
<td>300 – 900 mg./d</td>
<td>600 – 1500 mg./d</td>
<td></td>
</tr>
<tr>
<td>ziprasidone</td>
<td></td>
<td>80 – 160 mg./d</td>
<td></td>
</tr>
<tr>
<td>olanzapine</td>
<td>2.5 – 15 mg./d</td>
<td>15 – 60 mg./d</td>
<td>100 – 600 mg./d</td>
</tr>
<tr>
<td>clozapine</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FGA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chlorpromazine</td>
<td></td>
<td>100 – 300 mg./d</td>
<td></td>
</tr>
<tr>
<td>Haloperidol</td>
<td></td>
<td>1 – 6 mg./d</td>
<td></td>
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<tr>
<td>Long acting injections.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SGA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risperidone microspheres (&quot;Consta&quot;)</td>
<td></td>
<td>25 – 50 mg q2/52</td>
<td></td>
</tr>
<tr>
<td>FGA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Haldol (haloperidol decanoate)</td>
<td></td>
<td>50 – 200 mg q4/52</td>
<td></td>
</tr>
<tr>
<td>Depixol (flupenthixol decanoate)</td>
<td></td>
<td>25 – 62.5 mg q 2 – 3/52</td>
<td></td>
</tr>
</tbody>
</table>
Effect size in each study (solid circles) for 10 drugs, with better second-generation antipsychotic efficacy indicated by positive effect sizes.

Effect size in each study (positive effect sizes indicate better second-generation antipsychotic [SGA] efficacy) by categorical dose of haloperidol comparator group for 3 groups of SGAs for data from the present study (A) and from Geddes et al1 (B).

Treatment resistant.

- **Definition** no response to trial TWO antipsychotics at adequate dose for adequate time.
  - *Should be two tolerated medications.*
- *Two medications have been data for effectiveness.*
  - Clozapine
  - Olanzapine
Psycho-education

- Nature of psychosis.
  - Early warning signs.
  - Relapse prevention.

- Stigma.
  - Support re-moralization, integration into community.
  - Public education.

- Symptom management.
  - Diary, measurement of symptoms, symptom hierarchy
  - “Stop” thought technique, distraction.
  - Stress management.
  - Problem solving.
Family Therapy.

- Usually 1\textsuperscript{st} episode.
- **Model** is that familial adaptation to child's symptoms maladaptive for minimisation of symptoms.
- **Intervention**
  - Return to previous forms interaction (age appropriate).
  - Decrease number emotive (blaming) statements -- “expressed emotion”.
  - Problem solving as means to resolving conflict.
  - Education family so “toolkit” leads to ability to manage symptoms.
- Limited efficacy in older & treatment resistance.
Cognitive therapy.

- **Model**
  - *Psychosis is normal.*
    - Many people have some psychotic symptoms.
  - **The symptoms are on a gradient.**
    - Minimization neuro-cognitive research.
    - Stress | Substances | Trauma seen as precipitating
  - **One therefore has to test symptoms.**
    - Set up experiments to see if beliefs true.
    - **Work out ways that allow one to cope, without 'negative consequences'.**

- The response to a therapeutic relationship that engenders hope is part but not all of the effect CT.
Rehabilitation.

- **Recovery**
  - Means living well with disabilities.
  - However, many people think it means cure: when you recover from an illness you are “better”.

- Rehabilitation implies:
  - Return to function.
  - Return to maximal function.

- Current model is “recovery”.
Tools rehabilitation.

- Multidisciplinary team.
  - Networks of care
  - Case management.
  - Community and family involvement.

- Places of care.
  - Day hospital
  - Assertive community team.
  - Supported work.
  - Clubhouse.
Use MHA.

- In NZ, need to have severe danger to self or (severe) inability to care self.
- Severity clauses MAY lead to later treatment.
- Outpatient community orders may not be as effective as initially considered.
Assertive community care.

- “one stop” care.
  - Medical
  - Psychiatric
  - Budgeting
  - Substance treatment
  - Rehabilitation.

- Assertive.
  - Continuity of care: “I cannot be sacked”
  - All team members equal players.

- Flexible.
  - Meet patients needs eg. Care of cat while in hospital.
The psychotic symptoms are delusions, hallucinations, disorganisation and demotivation.

Schizophrenia only one of the psychoses.

Although psychotic symptoms are common:
- Many people with schizophrenia are disabled.
- The rate of suicide among people with schizophrenia is 40 times usual.
- The rate of death in schizophrenia is two to three times usual.

There are genetic predispositions and neurological sequelae of schizophrenia.
Summary 2.

- Treatment is biological, social and psychological.
- Use atypical antipsychotics as monotherapy by preference.
- All patients and families should have psychoeducation as part of treatment of their first episode(s).
- Rehabilitation and recovery occur in parallel to optimizing biological & psychological treatment.
Resources.

- Academic Painting Number one
- Academic Painting Number two.
- After such a matter as life or death.
- Agnus Dei, Dona Nobis Pacem.

Japanese Psychiatric Art.
- [http://psychodoc.eek.jp/abare/gallery/Index_e.html](http://psychodoc.eek.jp/abare/gallery/Index_e.html)

Andreasen, N. C. Symptoms, signs, and diagnosis of schizophrenia. Lancet, 1995;346: 477B-481

Arajärvia, R and others. Affective flattening and alogia associate with the familial form of schizophrenia. Psychiatry Research 2006;141(2):161-172.


Howes OD and others. Street slang and schizophrenia. BMJ 2007;335:1294, doi:10.1136/bmj.39419.647118.25

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