THE PERSON WITH PSYCHOTIC SYMPTOMS

SCHIZOPHRENIA "divided in the mind"

Epi

< 1% of population (20 /100 000 or 16000 new cases in NSW)

- **1/3RD** do **NOT** becoming lifelong
- 20 year shorter life expectance
- Higher rates in low SES, ATSI, pacific islanders

DDX

- **Drug-induced psychosis (e.g. from recent steroid usage)**
- *Psychotic disorder = disorders manifesting with delusional beliefs ranging from → brief psychotic disorder → psychosis*

RF

- **NO specific biological marker**
- **Strong inheritance** – FHx (e.g. specific deletions – 22q11) → of schizophrenia, substance abuse
- Pregnancy / birth complications (e.g. **malnutrition**, toxin or viral exposure ante-natal period)
- Use of **psychoactive drugs** during teens and young adulthood (Nb: *persistent drug use predicts re-admission BUT does **NOT** increase risk of being diagnosed with schizophrenia)*
- **Childhood trauma**

PP

Schizophrenia = neurodegenerative manifestation group of disorders [AS AVERAGE BRAIN VOL lower at diagnosis)

- **LOSS OF GRAY MATTER + ENLARGED VENTRICLE + LOSS OF SYNAPSES**
- Abnormal dopamine pathways (**NOT** imbalance of dopamine) → causes **Movement disorders**

Define /Sx

- Has **prodrome** (period **between** onset of premorbid mood changes (e.g. *irritable, communication issue, social isolation)* **AND** symptoms of psychosis – *acute manic episode, hallucinations, delusions*
  - Often incorrectly diagnosed as ADHD

➢ **DSMV criteria for schizophrenia = 2 -for-6-ophrenia (> 2 symptoms for 6 months) → AT LEAST ONE MUST BE 1,2 OR 3**

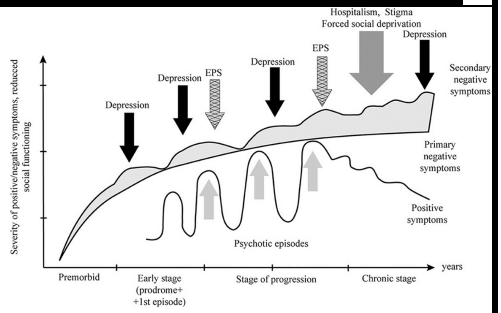
Positive (1st rank) Schneider symptoms	Negative symptoms (5 A's)
Increased mesolimbic and nigrostriatal pathway **(XS dopamine)**	*Hypoactive mesocortical pathway*
1) **Delusion** = firm fixed beliefs (MAIN) a. **Delusion of thought interference** (thought **insertion**, **withdrawal** or **broadcasting –** *someone knows their thoughts* **OR thought control)** b. **Delusional perception** (e.g. picking up coin make me the son of God) 2) **Hallucinating** (visual, somatic, olfactory, auditory – voices in 3rd person or running commentary) 3) **Disorganised speech**, (e.g. clanging, word salad, neologisms) • **Disorganised or catatonic behavior** (motor symptoms)	➢ **AFFECT / APATHY –** BLUNTED ➢ **AMBIVALENCE –** self-neglect (poor hygiene) ➢ **ALOGIA** - Poverty of speech – naturally quiet (due to voices in head) ➢ **ANHEDONIA** ➢ **ASOCIALITY** - social withdrawal / isolation ➢ **impaired cognitive function (**memory, attention) **OFTEN more disabling than positive symptoms AND less responsive to treatment** *Negative Sx makes schizophrenic a **chronic condition**

Good prognosis signs:

- Acute onset
- Catatonia
- Low mood

DDx.

- **Delusional disorder [**does NOT meet criteria A of schizophrenia**)**
  - ≥ 1x delusions >1/12
  - Does NOT impair social/occupational function
  - Manic, MDD are brief and related to delusion
- **Schizophreniform disorder** = schizophrenia syndrome <6/12 duration
  - Has episode of mood disturbance occurs in the presence of 1-3 above, **AND**
  - mood symptoms present in both the active and residual phase of the illness
- **Brief psychotic disorder** = schizophrenia syndrome <1/12 duration → delusion remit with return of insight
- **Schizo-affective disorder** = distinct episodes of mania or severe depression (mood changes) >2 weeks **PLUS** schizophrenia syndrome
- **Psychosis NOT otherwise specified (NOS)**



SUBSTANCE-induced psychosis (SIP) = TOXIC DELIRIUM	**Substance exposed schizophrenia (SES)**
• Prolonged and heavy substance use • Prolonged insomnia • Illusions **NOT** hallucinations • Normal thought and behaviour (e.g. fear) • Ideas **NOT** delusions of reference (e.g. believing people in passing city bus are talking about them) • Plausible persecutory beliefs • High level of arousal and anxiety	• Small doses need • 1st rank symptoms – auditory hallucinations, thought broadcasting • Schizophrenic disorder of form of thought • Basis of Beliefs often bizarre • Residual negative symptoms

Comp.

- Other psychiatric conditions (anxiety, depression)
- Social impairment (work, finances, relationships)
- Substance abuse (e.g. alcohol, nicotine)
- Suicide risk → RoSH to others and community

Poor prognosis

- *No trigger → Gradual onset with prodrome of social withdrawal*
- *Low IQa*
- *FHx*

Ix

- **Physical exam (neurological)**
- **FBC, EUC, LFT,**
- **Fasting BSL, lipids,**
- *TFT*
- *HIV and Hepatitis screen*

Specific tests for encephalitis

- ***Anti-NMDAR -*** *autoimmune encephalitis*
- ***Anti-VGKC*** *- Limic autoimmune encephalitis, epilepsy, neuromyotonic (Isaac's syndrome)*
- ***Anti-GAD*** *– T1DM*

- ***ECG***
- ***MRI brain*** *– smaller brain volume*
- *Urine drug screen*
- *EEG*
- *STI screen (if indicated – neurosyphilis)*

Mx

Non-Pharm

- De-escalate verbally if possible
- CBT or psychodynamic psychotherapy
- **MDT (best) =** (1) **rehab** then provide (2) **social support** to meet residual disability (e.g. case management)
  - **SANE Australia**
- **Generate insight of illness and need for treatment**
- **Treat comorbid substance use** (S/A/D) (most are smokers!!!)
- **Treat depression** (6% die from suicide)

Pharmacological

- Anti-psychotics (Dopamine antag)
  - 1st line = **PO risperidone** OR
  - **PO clozapine** (weak D2 blocker) for Rx resistant schizo
  - reduce/abolish *both* **+ve symptoms [mainly]** and -ve symptoms

Olanzapine taken the longest by sufferers BUT wt gain

NB:

- 1/3rd of patients are resistant to medications –
- Fast vs slow metabolisers = start slow and titrate up
- Become less responsive with time
- ECT (last resort)

Clinical stage	Definition
0	Increased risk of psychosis No symptoms currently
1a	Mild or non-specific symptoms of psychosis, including neurocognitive deficits Mild functional change or decline
1b	Ultra-high risk of psychosis Moderate but subthreshold symptoms, with moderate neurocognitive changes and functional decline to caseness or chronic poor function (30% drop in SOFAS in previous 12 months or <50 for previous 12 months)
2	First episode of psychotic disorder: full-threshold disorder with moderate-to-severe symptoms, neurocognitive deficits and functional decline (GAF 30–50) Includes acute and early recovery periods
3a	Incomplete remission from first episode of care
3b	Recurrence or relapse of psychotic disorder that stabilises with treatment, but at a level of GAF, residual symptoms or neurocognition below the best level achieved following remission from the first episode
3c	Multiple relapses with objective worsening in clinical extent and impact of illness
4	Severe, persistent or unremitting illness, as judged by symptoms, neurocognition and disability criteria

Source: Adapted from McGorry et al. (2006).
SOFAS: social and occupational function assessment scale; GAF: global assessment of function.

Anti-Psychotics / Tranquiliser / Neuroleptics

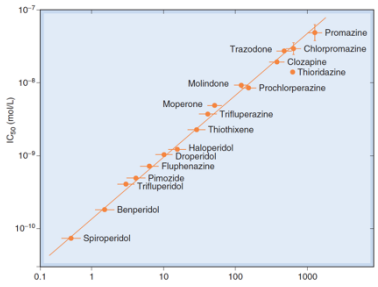
- ***Psychosis*** = disordered thoughts - person loses capacity to distinguish fiction from reality
- ***S+S*** = hallucinations, delusions, disordered thought, disordered behaviour
- ***Onset*** = abrupt, slowly developing, unremitting or relapsing

Classification of antipsychotic drugs

- Main categories are:
  - first-generation ('typical', 'classical' or 'conventional') antipsychotics (e.g. **chlorpromazine**, **haloperidol**, **fluphenazine**, **flupentixol**, **zuclopenthixol**);
  - second-generation ('atypical') antipsychotics (e.g. **clozapine**, **risperidone**, **quetiapine**, **amisulpride**, **aripiprazole**, **ziprasidone**).
- Distinction between first- and second-generation drugs is not clearly defined but rests on:
  - receptor profile;
  - incidence of extrapyramidal side effects (less in second-generation group);
  - efficacy (specifically of **clozapine**) in 'treatment-resistant' group of patients;
  - efficacy against negative symptoms.

Main indications for anti-psychotics

- BAPD (combined with mood stabiliser e.g. Li)
- Unipolar depression
- Delirium
- Anxiety
- Insomnia
- Behavioural disturbances
- Tics



*Most are not specific and non-selective → also bind to **a1, D1/D3, 5-HT, H_1 receptors etc.**

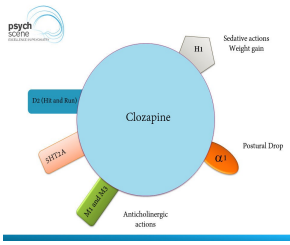
Drugs aim to treat Symptoms (NOT cure)

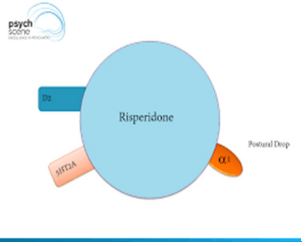
Outcomes of long-term anti-psychotic drug therapy

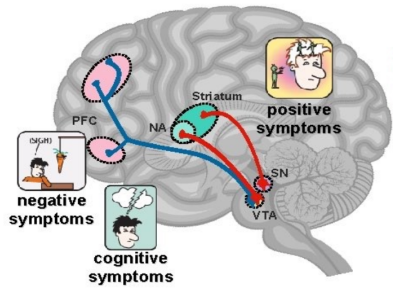
- *Live longer, but often with tardive dyskinesia and no ultimate resolution of underlying condition*
- *Any use of antipsychotics **sig. reduces** mortality in schizophrenic populations*

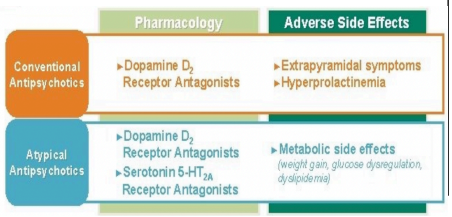
Blocking D2 (found in motor regions, HT)

1. +++ increases DA release → +++ D1 activity
2. increases glutamate release from VTA (not SN) neurons
3. *Nigra-striatal pathway (dorsal striatum*









INDICATIONS

1ST GEN = Old antipsychotics

➢ Haloperidol (greater EPSE) → 0.25-0.5mg PO/IM → wait 30 mins b/w doses

2ND GEN = New antipsychotics

Drug	Clozapine	Quetiapine
MoA	Dopamine (D2) receptors antagonists	
Ind	Most effective for: • Rx resistant Schizophrenia • Mania • Psychosis • Suicidal ideation • Behavioural disturbance (Aggression)	• Schizophrenia, • **Bipolar affective disorder** • Psychosis in **Parkinson's patient**
ADV.	• **Most effective drug** • *Pts recover if immediately withdrawn* • *Less EPSE than typicals* • **Start low – titrate up** • **70% of patients benefit**	• *New drug w/ good efficacy* • *Lower incidence* of EPSE motor Sx **(best for Parkinson's)**
A/E	• **Agranulocytosis** → neutropenic sepsis flu-like Sx, fever and sore throat **Rx: GCSF + sx treatment** → prevent with Li, CSF and mitigate RF → need weekly CRP and WCC for 4/12 then monthly for 18/12 (can rechallenge clozapine later) • **Elevated PrL** • **Seizures** • **Myocarditis** (+++ Trop, CRP) → *due to RECENT increased dosage or concurrent Na valproate usage → ICU admission + do not ever restart clozapine*	• **Weight gain** + CV effect • **High misuse** w/ illicit drugs • **Prescribed "off-label"** for anxiety, anorexia, OCD, PTSD, substance use disorder, agitation in dementia

* ***From chlorpromazine on, all antipsychotic drugs are dopamine D2 antagonists (or low efficacy agonists)***

Typical and Atypical (2nd gen) Anti-psychotics

- **➔ do NOT improve dementia ➔ increased falls, VTE, strokes**
- **➔ ONLY target the positive symptoms of schizophrenia**
- **AVOID – EtoH, smoking, caffeine (reduces clozapine levels)**

3rd gen anti-psychotics *(E.g. aripiprazole, cariprazine)*

Cariprazine (only drug able to treat BOTH positive and negative Sx)

➢ Partial dopamine D2/3 agonist and 5HT1A and blocks 5HT2A
➢ Less EPSE, less hyperPRL and less weight gain
➢ A/E = agitation and restlessness

General A/E

Typical anti-psychotics A/E → EPSE + HyperPrl

EPSE	Solution
Acute dystonia (blocked nigrostriatal pathway) "sustained increased and painful tone"- ***laryngospasm (most serious - risk of hypoxia)**, upward eye movement (oculogyric crisis), trismus, lordosis, scoliosis, opisthotonos crisis (hypertext body)*	**RF:** male, young, 1st gen anti-psych, stimulant use, previous dystonic reaction • **1st: Discontinue** anti-psychotic – change anti-psychotic (E.g. clozapine) • **2nd: IV/IM Benztropine (anti-chol)** e.g. 2-8mg Benztropine → esp. for acute oculogyric crisis or dystonia * *Vitamin K, Gingko (low evidence)*
Parkinsonian side effects- Tremors, Bradykinesia, Rigidity, reduced arm swing, shuffling gait → "Simpson Angus side effect"	
Tardive dyskinesia (TD) → irreversible if chronic (Involuntary movements – lip smacking, automatisms)	
Akathisia (10-15%) (inner feeling of restlessness) acute motor agitation, reversible) – *restless leg, rocking, pacing*	
XS PrL (galactorrhea, amenorrhoea, sexual dysfunction)	• **Discontinue** • **Dopamine agonists (e.g. aripiprazole)**

Atypical (2nd gen) anti-psychotics A/E ➔ metabolic side effects

Main side effect	Rx
• **Weight gain** (all anti-psychotics)	Diet, exercise, metformin
• **Glucose dysregulation + Peripheral neuropathy**	Diet, exercise, OHA, **PN, GASTROPARESIS, SBO**
• **Dyslipidaemia**	Statins or cholesterol lowering agents
• *****Seizures*****	Anti-convulsant?
• *****Cardiac issues***** (↑HR, prolonged QT, hypoTN → postural drops)	Preventative measures ➢ Correct dose or use BB

DO NOT MISS

MAJOR COMPLICATIONS	Solution
Neuroleptic malignant syndrome (due to D1/D2 receptor blockade – antipsych or abrupt stoppage of PD) • **Confusion + rigidity + hyperthermia + ANS dysfn** • **CK > 4x ULN**	• **SUPPORTIVE** → IVF → aggressive cooling • **BZD for muscle rigidity** + STOP dopamine antag or give dop agonists (e.g. bromocriptine) • **5-20% mortality rate**
Serotoninergic syndrome ➢ Agitation, restless, delirium, ➢ Clonus, hyper-reflexia, , akathisia, HTN, Hyperthermia	• **Cool** • **Sedate -** *BZD* • **Intubate** • **Paralyse –** *Induction agents*

****Monitoring bloods (weekly for 18 weeks)***

- **FBC (WCC), EUC, LFT, Fasting BSL, Lipids, PrL, ECG + BMI**

MANAGING ACUTE PSYCHIATRIC EMERGENCIES

Signs	Symptoms	Non-pharm Mx	Specific Mx
• **XS or semi-purposeful motor activity** • **Verbal outbursts – e.g.** Vocalising = homicidal /suicidal threats • **Physical aggression against property or others**	• **Akathisia -** Internal restlessness, rocking, pacing, distress leading to suicidal • **EPSE** - Acute dystonia, tardive dyskinesia • **Feeling out of control** • **Feeling irritable / angry** • **Mania** • **Hypervigilance** to external and internal stimuli	1. **De-escalate verbally** Personal safety for yourself and others 2. **Brief supportive intervention** - quiet room, lighting, sensory aids, phone call 3. **Take hx – enquire about meds!** 4. **Code-black Restraints** (e.g. physical, environ, mechanical, chemical) **MOST COMMON CAUSES!** *1) Delirium – ID reversible cause* *2) Substance, alcohol intoxication,* *3) Medical condition (e.g. epilepsy, stroke, enceph)* *4) MH illness,* *5) Intellectual disability*	**Mainly: BZD and anti-psychotics** • **Delirium** – BZD and anti-psychotics ○ **5-10mg diazepam** ○ **2-5mg haloperidol (1st gen) – use lower dosage in elderly!!** ○ **0.5-1mg risperidone (2nd gen)** • **Substance intox** Higher-dosage BZD or atypical antipsych (olanzapine) *Antidotes* – BZD (flumazenil), opiate (naloxone), organophosphate (atropine) • **Substance/alcohol withdrawal** – Higher-dosage BZD + EtOH (thiamine • **MH illness** – BZD PO/IM, PO anti-psychotic and IM (e.g. olanzapine, droperidol, haloperidol) • **Intellectual disability** – talk with psychiatrist

COMMON SCENARIOS – IMPRESSION AND MANAGEMENT

Scenario 1:

- An elderly patient who was admitted yesterday, undergoing medical work-up,
- He was agitated this morning and struck a nurse who tried to re-direct him to his bed.
- Last night he was wandering around and tried to find his way out the hospital, had to be re-directed a few times back to his room and fell asleep only early in the morning.
- His elderly wife was contacted and is keen to be present during your assessment.

Impression: Delirium? BPSD? Adjustment disorder

Management

1) Verbally de-escalate if possible. A-E assessment.
2) Check medication chart
3) ID reversible cause (e.g. infection, anaemia, BPSD, dehydrated, pain, retention, cerebral bleed - SDH) –
Bladder scan, ECG, FBC, EUC, CMP, LFT, TFT, BSL, Septic screen (if febrile), CTB
4) If violently aggressive → BZD

Scenario 2:

- You are a GP trainee working in a busy practice and covering for the regular GP:
- You are interrupted by the call of the secretary who reported that a young man accompanied by two support persons from the local disability service arrived to the practice, yelling and screaming, throwing chairs around
- He is not known to the practice, difficult to communicate, he appears to have difficulties understanding what he was told.

Impression: Substance withdrawal / intoxication or MH illness acute crisis

Management

1) Verbally de-escalate if possible – *sit down, quiet space, supportive*
2) Press Emergency button if sig. RoSH to self, others or patient
3) A-E assessment
4) Rx accordingly

Scenario 3:

- You are a JMO in a busy ED covering for the registrar:
- You are called by the triage nurse reporting that the ambulance brought a middle-age man who had been found lying in the street, stating that he wanted to kill himself. The paramedics had to schedule him to transfer to ED.
- He smelt alcohol, had injection marks on his arms and was incoherent in his speech
- On arrival to ED, he tried to hit a few nurses but luckily, did not hurt anyone because he was not able to hold his balance.

Impression: EtOH or illicit drug intoxication, MH illness acute crisis,

Management

1) Verbally de-escalate if possible – *sit down, quiet space, supportive*
2) Code black – physical assistance (Security)
3) BZD – 5mg midazolam IM
4) Nutrition support - 300mg thiamine IM/IV → transition to PO for many weeks
5) Alcohol withdrawal scale (CIWA, AWS)
6) Bloods – FBC, EUC, CMP, LFT, Lipids, BSL, uric acid, BAC, Liver USS
7) Contact drug and alcohol services, SW, OT once stable and no medical concern

Scenario 4:

- You are a JMO in a busy ED covering for the registrar:
- You are called by the triage nurse that the police brought a young man who acted suspiciously, ran away from the police then tried to attack a police officer with a baseball bat.
- He was handcuffed and the police applied the MHA to bring him for a psychiatric assessment before deciding whether to take him to their custody
- The patient was observed agitated, clenching fists and not talking to the staff.

Impression: MH illness acute crisis (paranoia, recurrent psychosis, manic episode - bipolar), Hyperthyroidism (thyroid storm), personality disorder (e.g. antisocial), Medication W/D

Management

1) Verbally de-escalate
2) Exclude reversible cause
3) Contact known GP, psychiatrist or police to gather information about them
4) Refer to CL liaison services (if available) or on-call psych registrar

Scenario 5:

- You are a GP trainee in a busy practice and sees your next patient:
- She is a 25 yo student, living with her parents, who complained of feeling more and more agitated over the last 2 days, restless, unable to sleep for two nights, had bouts of diarrhoea, and feeling slightly febrile,
- On observation, she was quite restless even sitting in a chair, sweaty, giving an impression of quick jerky movements.
- She reported that she had been well until 2 days ago, did not take illicit substances, saw her private psychiatrist who suggested a cross-over her regular antidepressant she has been taking from her treatment-resistant depression.
- As she was having chronic suicidal thoughts, she decided to start taking a full dose of the new antidepressant while taking her previous one 'to get better quickly and get out this dark space'

Impression: Serotonin syndrome (taken 2x to get over depression quicker)

➢ *Symptoms of agitation, restlessness, delirium and disorientation*

Management

1) Supportive + IVF
2) Sedate with benzo
3) Discontinue all serotergernic meds
4) **Anti-serotonin agents** (e.g. cyproheptadine)

Scenario 6:

- 78 yo a tall, physically fit man, was brought to ED by his wife because of increased wandering at night on the background of dementia. He was hallucinating, became agitated in ED, tried to walk out, assaulted a nurse and was uneventfully sedated with Lorazepam 1 mg IM and Haloperidol 5 mg IM.
- The following day, he appeared lethargic, confused, lying in bed the whole day.
- Today, on day 3, he remains confused, unable to sit up, 2 nurses were unable to sit him up, he appeared to show some resistance and was sweaty

Impression: Neuromalignant syndrome

➢ *Hyperthermia, miosis, hypotonia,*

Management

1) Supportive + IVF
2) BZD for muscle rigidity
3) Discontinue anti-dopaminergic meds
4) **Dopamine agonists** (e.g. bromocriptine)

Scenario 7:

- GP trainee in a rural setting in a small town where only a Mental Health nurse runs a mental health community clinic.
- She asked you to review her long-term patient – a 39 yo man, on antipsychotic medications who saw his GP a year ago
- His regular doctor is currently on annual leave and you are covering for him. Medical records in this practice are not computerised and are not available for this patient
- Only available information is the records of the nurse stating that the patient is receiving depot medication from her Paliperidone 150 mg IM every 4 weeks and oral olanzapine 10 mg nocte

Impression: ?FU for Medication non-adherence

Management

1) Take a psychiatric history - check Psych and medical Sx
2) Enquire about his current and past antipsychotics – inc. compliance, adherance
3) Make provisional DDx
4) Order regular tests for monitoring A/E – weight, BMI, ECG, fasting lipids and glucose
5) Consult a psychiatrist if needed