Appendix 1
Scoping Review of Psychotropic Medications and Fracture Risk

**PICO Question:**
In patients who have been taking psychotropic medications, how are these patient’s fracture risk and severity of fracture changed when compared to the general population.

**Methods**

*Literature Search*

- **Search Terms**
  - Psychotropic drugs (and MESH terms seen below) AND fracture (and MESH terms seen below)
- **Databases**
  - PubMed
  - Google Scholar
  - EMBASE
  - MEDLINE
  - CENTRAL
  - Scopus

*Inclusion/Exclusion Criteria*

- **Inclusion**
  - Primary literature—level I to IV
  - Must undergo discuss fracture risk
  - Patients must be taking psychotropic medications
  - Case series/studies
  - Human subjects
  - English language
- **Exclusion**
  - Animal studies
  - Cadaver studies
  - Duplicate studies found between data bases
  - No fracture
  - Expert opinion
  - Review articles
  - Systematic reviews and Meta-analyses
  - Studies in languages other than English
  - SSRI and SNRI studies

*MESH Entry Terms for Psychotropic Medications (on PubMed)*

- Drugs, Psychotropic
• Agents, Antidepressive
• Antidepressive Agent
• Agent, Antidepressive
• Antidepressants
• Antidepressant
• Antidepressant Drugs
• Drugs, Antidepressant
• Antidepressant Drug
• Drug, Antidepressant
• Thymoleptics
• Thymoleptic
• Thymoanaleptics
• Thymoanaleptic

• Agents, Anti-Anxiety
• Anti Anxiety Agents
• Anti-Anxiety Drug
• Anti Anxiety Drug
• Drug, Anti-Anxiety
• Anti-Anxiety Drugs
• Anti Anxiety Drugs
• Drugs, Anti-Anxiety
• Anxiolytic
• Anxiolytics
• Tranquilizing Agents, Minor
• Agents, Minor Tranquilizing
• Minor Tranquilizing Agents
• Tranquilizing Agents, Minor
• Agents, Minor Tranquillizing
• Minor Tranquillizing Agents
• Anxiolytic Agent
• Agent, Anxiolytic
• Anti-Anxiety Agent
• Agent, Anti-Anxiety
• Anti Anxiety Agent
• Anxiolytic Agents
• Agents, Anxiolytic
• Anti-Anxiety Effect
• Anti Anxiety Effect
• Effect, Anti-Anxiety
• Anxiolytic Effects
• Effects, Anxiolytic
• Antianxiety Effects
• Effects, Antianxiety
• Anxiolytic Effect
• Effect, Anxiolytic
• Anti-Anxiety Effects
• Anti Anxiety Effects
• Effects, Anti-Anxiety
• Antianxiety Effect
• Effect, Antianxiety

• Central Stimulants
• Stimulants, Central
• CNS Stimulants
• Stimulants, CNS
• Analeptics
• Analeptic Drugs
• Drugs, Analeptic
• Analeptic Agents
• Agents, Analeptic

• Sedatives and Hypnotics
• Sedative and Hypnotic
• Hypnotic and Sedative
• Hypnotic Effect
• Effect, Hypnotic
• Hypnotic Effects
• Effects, Hypnotic
• Sedatives
• Sedative
• Hypnotics
• Hypnotic
• Sedative Effect
• Effect, Sedative
• Sedative Effects
• Effects, Sedative

• Anticonvulsive Agent
• Agent, Anticonvulsive
• Anticonvulsive Drug
• Drug, Anticonvulsive
• Anticonvulsive Drugs
• Drugs, Anticonvulsive
• Anticonvulsant
• Anticonvulsant Drugs
• Drugs, Anticonvulsant
• Anticonvulsive Agents
• Agents, Anticonvulsive
• Anticonvulsant Drug
• Drug, Anticonvulsant
• Antiepileptic Agents
  • Agents, Antiepileptic
  • Antiepileptics
  • Antiepileptic Drug
  • Drug, Antiepileptic
  • Antiepileptic
  • Antiepileptic Agent
  • Agent, Antiepileptic
  • Antiepileptic Drugs
  • Drugs, Antiepileptic

• Antagonists, Dopamine
  • Antagonists, Dopamine Receptor
  • Antagonists, Dopaminergic
  • Dopamine Blockers
  • Blockers, Dopamine
  • Dopamine Receptor Antagonists
  • Receptor Antagonists, Dopamine
  • Dopamine Blocker
  • Blocker, Dopamine
  • Dopamine Receptor Antagonist
  • Antagonist, Dopamine Receptor
  • Receptor Antagonist, Dopamine
  • Dopaminergic Antagonist
  • Antagonist, Dopaminergic
  • Dopaminergic Antagonists
  • Dopamine Antagonist
  • Antagonist, Dopamine

• Benzodiazepine Compounds
  • Benzodiazepine

• Agents, Tricyclic Antidepressive
  • Tricyclic Antidepressant Drug
  • Antidepressant Drug, Tricyclic
  • Drug, Tricyclic Antidepressant
  • Tricyclic Antidepressant
  • Antidepressant, Tricyclic
  • Antidepressants, Tricyclic
  • Tricyclic Antidepressants
  • Tricyclic Antidepressive Agents
  • Tricyclic Antidepressive Agent
  • Agent, Tricyclic Antidepressive
  • Antidepressive Agent, Tricyclic
  • Antidepressant Drugs, Tricyclic
  • Drugs, Tricyclic Antidepressant
• Tricyclic Antidepressant Drugs
  • Inhibitors, Monoamine Oxidase
  • Monoamine Oxidase Inhibitor
  • Inhibitor, Monoamine Oxidase
  • MAO Inhibitors
  • Inhibitors, MAO
  • MAO Inhibitor
  • Inhibitor, MAO
  • RIMA (Reversible Inhibitor of Monoamine Oxidase A)
  • Reversible Inhibitors of Monoamine Oxidase
  • Reversible Inhibitor of Monoamine Oxidase

• Antidepressive Agents, Second Generation
  • Second-Generation Antidepressive Agents
  • Agents, Second-Generation Antidepressive
  • Second Generation Antidepressive Agents
  • Atypical Antidepressants
  • Antidepressants, Atypical
  • Antidepressive Drugs, Second-Generation
  • Antidepressive Drugs, Second Generation
  • Drugs, Second-Generation Antidepressive
  • Second-Generation Antidepressive Drugs

• SSRI
• SSRI
  • Reuptake Inhibitors, Serotonin
  • Uptake Inhibitors, 5-Hydroxytryptamine
  • Uptake Inhibitors, 5-Hydroxytryptamine
  • Uptake Inhibitors, Serotonin
  • Serotonin Reuptake Inhibitor
  • Inhibitor, Serotonin Reuptake
  • Reuptake Inhibitor, Serotonin
  • Serotonin Uptake Inhibitor
  • Inhibitor, Serotonin Uptake
  • Uptake Inhibitor, Serotonin
  • 5-HT Uptake Inhibitor
  • 5 HT Uptake Inhibitor
  • Inhibitor, 5-HT Uptake
  • Uptake Inhibitor, 5-HT
  • 5-Hydroxytryptamine Uptake Inhibitor
  • 5 Hydroxytryptamine Uptake Inhibitor
  • Inhibitor, 5-Hydroxytryptamine Uptake
  • Uptake Inhibitor, 5-Hydroxytryptamine
  • 5-HT Uptake Inhibitors
• 5 HT Uptake Inhibitors
• 5-Hydroxytryptamine Uptake Inhibitors
• 5 Hydroxytryptamine Uptake Inhibitors
• Inhibitors, 5-HT Uptake
• Inhibitors, 5 HT Uptake
• Inhibitors, 5-Hydroxytryptamine Uptake
• Inhibitors, 5 Hydroxytryptamine Uptake
• Inhibitors, Serotonin Reuptake
• Inhibitors, Serotonin Uptake
• Serotonin Reuptake Inhibitors
• Uptake Inhibitors, 5-HT
• Uptake Inhibitors, 5 HT
• Selective Serotonin Reuptake Inhibitors
• Selective Serotonin Reuptake Inhibitor

• Serotonin and Norepinephrine Reuptake Inhibitors
• SSRIs and NRIs
• NRIs and SSRIs
• Serotonin and Noradrenaline Uptake Inhibitors
• SNRIs
• SNRI
• Serotonin and Norepinephrine Uptake Inhibitors

1-(2-pyrimidinyl)piperazine *(Supplementary Concept)*
1-(4-chlorophenyl)-4-piperidin-1-yl-1,5-dihydroimidazol-2-one *(Supplementary Concept)*
2,3-dioxo-6-nitro-7-sulfamoylbenzo(f)quinoxaline *(Supplementary Concept)*
2,5-dimethoxy-4-bromoamphetamine *(Supplementary Concept)*
2,5-Dimethoxy-4-Methylamphetamine *(MeSH Term)*
2-hydroxydesipramine *(Supplementary Concept)*
3,4,4a,10b-tetrahydro-4-propyl-2H,5H-(1)benzopyrano(4,3-b)-1,4-oxazin-9-ol *(Supplementary Concept)*
3,4-Methylenedioxyamphetamine *(MeSH Term)*
3-((4-(4-chlorophenyl)piperazin-1-yl)methyl)-1H-pyrrolo(2,3-b)pyridine *(Supplementary Concept)*
3-methyl-5-(1-methyl-2-pyrrolidinyl)isoxazole *(Supplementary Concept)*
4-(1-(3-methoxyphenyl)cyclohexyl)morpholine *(Supplementary Concept)*
4-amino-3-phenylbutyric acid *(Supplementary Concept)*
4-iodo-2,5-dimethoxyphenylisopropylamine *(Supplementary Concept)*
4-methoxyamphetamine *(Supplementary Concept)*
5-Hydroxytryptophan *(MeSH Term)*
6-methyl-2-((phenylethynyl)pyridine *(Supplementary Concept)*
6-methyl-2-ethyl-3-hydroxypyridine *(Supplementary Concept)*
7-nitroindazole *(Supplementary Concept)*
abecarnil *(Supplementary Concept)*
• Acepromazine (MeSH Term)
• aceprometazine (Supplementary Concept)
• adinazolam (Supplementary Concept)
• adipiplon (Supplementary Concept)
• alaprocilate (Supplementary Concept)
• alnespirone (Supplementary Concept)
• alpha-(4-fluorophenyl)-4-(5-fluoro-2-pyrimidinyl)-1-piperazine butanol (Supplementary Concept)
• alpidem (Supplementary Concept)
• Alprazolam (MeSH Term)
• amineniptin (Supplementary Concept)
• Amisulpride (MeSH Term)
• Amitriptyline (MeSH Term)
• amitriptyline, chlordiazepoxide drug combination (Supplementary Concept)
• amitriptyline, perphenazine drug combination (Supplementary Concept)
• Amoxapine (MeSH Term)
• amperozide (Supplementary Concept)
• angelicin (Supplementary Concept)
• aniracetam (Supplementary Concept)
• Aripiprazole (MeSH Term)
• aripiprazole lauroxil (Supplementary Concept)
• Asenapine (Supplementary Concept)
• Azaperone (MeSH Term)
• Benactyzine (MeSH Term)
• Benperidol (MeSH Term)
• BIBP 3226 (Supplementary Concept)
• bifemelane (Supplementary Concept)
• binspirone mesylate (Supplementary Concept)
• bromantane (Supplementary Concept)
• Bromazepam (MeSH Term)
• bromperidol (Supplementary Concept)
• bromperidol decanoate (Supplementary Concept)
• Bufotenin (MeSH Term)
• Bupropion (MeSH Term)
• Buspirone (MeSH Term)
• Butaclamol (MeSH Term)
• butriptyline (Supplementary Concept)
• Carbamazepine (MeSH Term)
• cariprazine (Supplementary Concept)
• carpipramine (Supplementary Concept)
• cathinone (Supplementary Concept)
• Chlordiazepoxide (MeSH Term)
• chlordiazepoxide, clidinium drug combination (Supplementary Concept)
• Chlormezanone (MeSH Term)
• Chlorpromazine (MeSH Term)
• Chlorprothixene (MeSH Term)
• Citalopram (MeSH Term)
• CL 218872 (Supplementary Concept)
• Clobazam (MeSH Term)
• Clomipramine (MeSH Term)
• Clopenthixol (MeSH Term)
• clopenthixol acetate ester (Supplementary Concept)
• clopenthixol decanoate (Supplementary Concept)
• Clorazepate Dipotassium (MeSH Term)
• Clorgyline (MeSH Term)
• clothiapine (Supplementary Concept)
• clovoxamine (Supplementary Concept)
• Clozapine (MeSH Term)
• clozapine N-oxide (Supplementary Concept)
• cotriptyline (Supplementary Concept)
• cyclobenzaprine (Supplementary Concept)
• dapiaprazole (Supplementary Concept)
• Deanol (MeSH Term)
• deramiciclane (Supplementary Concept)
• Desipramine (MeSH Term)
• desmethyldoxepin (Supplementary Concept)
• Desvenlafaxine Succinate (MeSH Term)
• Diazepam (MeSH Term)
• dibenzepin (Supplementary Concept)
• dibutylone (Supplementary Concept)
• dicarbine (Supplementary Concept)
• dimoxamine (Supplementary Concept)
• dixyrazine (Supplementary Concept)
• DN 1417 (Supplementary Concept)
• doramectin (Supplementary Concept)
• Dothiepin (MeSH Term)
• Doxepin (MeSH Term)
• Dronabinol (MeSH Term)
• Droperidol (MeSH Term)
• Duloxetine Hydrochloride (MeSH Term)
• DuP 734 (Supplementary Concept)
• ecopipam (Supplementary Concept)
• eglumetad (Supplementary Concept)
• emoxypine succinate (Supplementary Concept)
• Esketamine (Supplementary Concept)
• Estazolam (MeSH Term)
• Etazolate (MeSH Term)
• ethacizine (Supplementary Concept)
- ethyl loflazepate (Supplementary Concept)
- etifoxine (Supplementary Concept)
- etizolam (Supplementary Concept)
- fananserin (Supplementary Concept)
- femoxetine (Supplementary Concept)
- fencamfamine (Supplementary Concept)
- flesinoxan (Supplementary Concept)
- fluanisone (Supplementary Concept)
- fludiazepam (Supplementary Concept)
- flunitrazepam (MeSH Term)
- flunitrazolam (Supplementary Concept)
- Fluoxetine (MeSH Term)
- Flupenthixol (MeSH Term)
- flupenthixol decanoate (Supplementary Concept)
- fluperlapine (Supplementary Concept)
- Fluphenazine (MeSH Term)
- fluphenazine depot (Supplementary Concept)
- fluphenazine enanthate (Supplementary Concept)
- fluprazine (Supplementary Concept)
- Flurazepam (MeSH Term)
- Fluspirilene (MeSH Term)
- Fluvoxamine (MeSH Term)
- Gabapentin (MeSH Term)
- gamma-endorphin, des-Tyr(1)- (Supplementary Concept)
- gepirone (Supplementary Concept)
- glutamic acid diethyl ester (Supplementary Concept)
- halazepam (Supplementary Concept)
- Haloperidol (MeSH Term)
- haloperidol decanoate (Supplementary Concept)
- Harmine (MeSH Term)
- honokiol (Supplementary Concept)
- hydroxymaprotinin (Supplementary Concept)
- hypericin (Supplementary Concept)
- Ibogaine (MeSH Term)
- iloperidone (Supplementary Concept)
- Imipramine (MeSH Term)
- indalpine (Supplementary Concept)
- indeloxazine (Supplementary Concept)
- indol-3-yl pyruvic acid (Supplementary Concept)
- indorenate (Supplementary Concept)
- Iprindole (MeSH Term)
- Iproniazid (MeSH Term)
- ipsapirone (Supplementary Concept)
- Isocarboxazid (MeSH Term)
• isofloxythepin (Supplementary Concept)
• kavain (Supplementary Concept)
• ketazolam (Supplementary Concept)
• L 701324 (Supplementary Concept)
• Lamotrigine (MeSH Term)
• lappaconitine (Supplementary Concept)
• Levomilnacipran (MeSH Term)
• Lithium Carbonate (MeSH Term)
• Lithium Chloride (MeSH Term)
• Lithium Compounds (MeSH Term)
• Lofepramine (MeSH Term)
• Lorazepam (MeSH Term)
• Loxapine (MeSH Term)
• Lurasidone Hydrochloride (MeSH Term)
• Lysergic Acid Diethylamide (MeSH Term)
• lysergol (Supplementary Concept)
• Maprotiline (MeSH Term)
• mebikar (Supplementary Concept)
• Medazepam (MeSH Term)
• melitracene (Supplementary Concept)
• Meprobamate (MeSH Term)
• Mescaline (MeSH Term)
• Mesoridazine (MeSH Term)
• metapramine (Supplementary Concept)
• Methiothepin (MeSH Term)
• Methotrimeprazine (MeSH Term)
• methoxytryptophol (Supplementary Concept)
• metylperon (Supplementary Concept)
• Mianserin (MeSH Term)
• Midazolam (MeSH Term)
• minaprine (Supplementary Concept)
• Mirtazapine (MeSH Term)
• Moclobemide (MeSH Term)
• Molindone (MeSH Term)
• N,N-Dimethyltryptamine (MeSH Term)
• N,N-dipropyl-2-(4-methoxy-3-(2-phenylethoxy)phenyl)ethylamine monohydrochloride (Supplementary Concept)
• N-Methyl-3,4-methylenedioxyamphetamine (MeSH Term)
• N1-(cyclopropylmethanoyl)-lysergic acid diethylamide (Supplementary Concept)
• nabilone (Supplementary Concept)
• nebracetam (Supplementary Concept)
• nefazodone (Supplementary Concept)
• nefiracetam (Supplementary Concept)
• nemonapride (Supplementary Concept)
• Nialamide (MeSH Term)
• nimetazepam (Supplementary Concept)
• Nitrazepam (MeSH Term)
• norclozapine (Supplementary Concept)
• Nordazepam (MeSH Term)
• Nortriptyline (MeSH Term)
• norzimelidine (Supplementary Concept)
• noxiptilin (Supplementary Concept)
• Olanzapine (MeSH Term)
• Ondansetron (MeSH Term)
• Opipramol (MeSH Term)
• Oxazepam (MeSH Term)
• oxiracetam (Supplementary Concept)
• Oxprenolol (MeSH Term)
• Paliperidone Palmitate (MeSH Term)
• Paroxetine (MeSH Term)
• PD 134308 (Supplementary Concept)
• PD 135158 (Supplementary Concept)
• Penfluridol (MeSH Term)
• Perazine (MeSH Term)
• perospirone (Supplementary Concept)
• Perphenazine (MeSH Term)
• Phencyclidine (MeSH Term)
• Phenelzine (MeSH Term)
• phenethylamine (Supplementary Concept)
• phenylpiperazine (Supplementary Concept)
• piflutixol (Supplementary Concept)
• pimavanserin (Supplementary Concept)
• Pimozide (MeSH Term)
• pinazepam (Supplementary Concept)
• pipamperone (Supplementary Concept)
• pirenperone (Supplementary Concept)
• pidlindole (Supplementary Concept)
• Pizotyline (MeSH Term)
• Prazepam (MeSH Term)
• Pregabalin (MeSH Term)
• Prochlorperazine (MeSH Term)
• progabide (Supplementary Concept)
• Promazine (MeSH Term)
• proroxan (Supplementary Concept)
• Protriptyline (MeSH Term)
• psilocin (Supplementary Concept)
• Psilocybin (MeSH Term)
• pyro(L-alpha-aminoadipyl)-L-histidyl-L-thiazolidine-4-carboxamide (Supplementary Concept)
• Quetiapine Fumarate (MeSH Term)
• Quipazine (MeSH Term)
• Raclopride (MeSH Term)
• Reboxetine (MeSH Term)
• Remoxipride (MeSH Term)
• Reserpine (MeSH Term)
• rimcazole (Supplementary Concept)
• Risperidone (MeSH Term)
• Ritanserin (MeSH Term)
• Ro 22-1319 (Supplementary Concept)
• Rolipram (MeSH Term)
• roxindole (Supplementary Concept)
• RP5063 (Supplementary Concept)
• salvinorin A (Supplementary Concept)
• SB 206553 (Supplementary Concept)
• Selegiline (MeSH Term)
• sertindole (Supplementary Concept)
• Sertraline (MeSH Term)
• sibutramine (Supplementary Concept)
• sidnocab (Supplementary Concept)
• SK\(^\wedge\) and F 10047 (Supplementary Concept)
• Spiperone (MeSH Term)
• SR 142801 (Supplementary Concept)
• stepholidine (Supplementary Concept)
• sulforidazine (Supplementary Concept)
• Sulpiride (MeSH Term)
• suriclone (Supplementary Concept)
• talipexole (Supplementary Concept)
• tandospirone (Supplementary Concept)
• Temazepam (MeSH Term)
• tetrahydrodeoxy corticosterone (Supplementary Concept)
• tetrahydropalmatine (Supplementary Concept)
• Thioridazine (MeSH Term)
• Thiothixene (MeSH Term)
• tianeptine (Supplementary Concept)
• Tiapride Hydrochloride (MeSH Term)
• timiperone (Supplementary Concept)
• tiracizine (Supplementary Concept)
• tofisopam (Supplementary Concept)
• toloxatone (Supplementary Concept)
• Tranylcypromine (MeSH Term)
• Trazodone (MeSH Term)
• Triazolam (MeSH Term)
• triazulenone (Supplementary Concept)
• Trifluoperazine (MeSH Term)
• Trifluperidol (MeSH Term)
• Triflupromazine (MeSH Term)
• Trimipramine (MeSH Term)
• Tryptophan (MeSH Term)
• Valproic Acid (MeSH Term)
• Venlafaxine Hydrochloride (MeSH Term)
• veralipride (Supplementary Concept)
• Vilazodone Hydrochloride (MeSH Term)
• Viloxazine (MeSH Term)
• Vortioxetine (MeSH Term)
• xanomeline (Supplementary Concept)
• zetidoline (Supplementary Concept)
• ziprasidone (Supplementary Concept)
• ZK 91296 (Supplementary Concept)
• ZK 93423 (Supplementary Concept)
• Zolazepam (MeSH Term)
• zotepine (Supplementary Concept)

MESH Entry Terms for fracture (PubMed)
• Broken Bones
• Bone, Broken
• Bones, Broken
• Broken Bone
• Bone Fractures
• Bone Fracture
• Fracture, Bone
• Spiral Fractures
• Fracture, Spiral
• Fractures, Spiral
• Spiral Fracture
• Torsion Fractures
• Fracture, Torsion
• Fractures, Torsion
• Torsion Fracture
• Fracture, Open
• Open Fracture
• Open Fractures
• Fractures, Compound
• Compound Fracture
• Compound Fractures
• Fracture, Compound