CASE STUDIES

Stahl's Essential Psychopharmacology

Volume 3
Stahl’s Essential Psychopharmacology

Volume 3

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Contents

Introduction xiii
Contributors xvii
List of icons xix
Abbreviations xxi

1. The Case: Wearing down a diagnosis 1
The Question: What are the similarities and differences between anxiety and autism spectrum disorder (ASD) in children? How does it affect treatment and prognosis?
The Psychopharmacological Dilemma: Does this patient have an anxiety disorder, which can be treated effectively with a simple regimen that has a good prognosis, or does she have an ASD, which would require a more extensive regimen and possible lifelong treatment?
Karen Clarey, Stephanie Wong, and Takesha Cooper

2. The Case: The woman who couldn’t handle her lips smacking any longer 13
The Question: Is tardive dyskinesia permanent?
The Psychopharmacological Dilemma: Finding various options for treating tardive dyskinesia
Douglas Grover, Michael T. Ingram, Jr., and Christopher G. Fichtner

3. The Case: The depressed bipolar patient on multiple medications 25
The Question: Can reduction of polypharmacy optimize mood stabilization and reduce risk of subsequent manic or depressive episodes in this patient?
The Psychopharmacological Dilemma: Starting new medications and altering current ones can give rise to new adverse effects
Dale Hoang, Catherine Ha, and Peter Hauser

4. The Case: The agitated patient who finally wasn’t 37
The Question: What do you do when a patient is taking appropriate scheduled medications, but is frequently agitated and requiring medication intramuscularly (IM) or as needed on top?
The Psychopharmacological Dilemma: This patient had a significant history of violence and required heavy utilization of emergency IM medications in addition to scheduled medications. How do you balance the safety needs of the patient and staff while still respecting consent, ethical rights, and the risk of serious side effects?
Alex J. Mageno, Nekisa Haghighat, and Arthur Leitzke
Contents

5. The Case: The George who was not psychotic but anxious and distracted
   The Question: How common is psychosis seen in the spectrum of psychiatric comorbidities in DiGeorge syndrome?
   The Psychopharmacological Dilemma: Treating anxiety in a patient with a comorbid medical condition, symptoms of mood elevation, and a family history of bipolar disorder
   Edgar Ortega, Michael Seigler, and Takesha Cooper

6. The Case: The man who saw enemies everywhere
   The Question: What treatment options are left when nearly all treatments have been exhausted and ineffective?
   The Psychopharmacological Dilemma: Treating symptoms recalcitrant to even the most robust treatment strategies
   Joshua Poole and Stephen Maurer

7. The Case: The young woman with psychosis complicated by substance use and a history of traumatic brain injury
   The Question: How do you determine whether psychosis is a primary or secondary illness?
   The Psychopharmacological Dilemma: Does treatment depend upon whether psychosis is due to a primary psychiatric illness?
   Harika Reddy, Austin Nguy, and Sana Johnson-Quijada

8. The Case: The woman with worsening psychosis and a mysterious rash
   The Question: What do you do when a psychiatric patient on steroids develops psychosis?
   The Psychopharmacological Dilemma: How to address steroid-induced psychiatric disorders
   Sireena Sy, Yatna Patel, and Alexander Thanh Nguyen

9. The Case: The man without a plan
   The Question: How to diagnose and treat a patient with a coexisting attention-deficit/hyperactivity disorder (ADHD) and mood symptoms?
   The Psychopharmacological Dilemma: Finding an effective medication regimen for a patient previously diagnosed with ADHD and major depressive disorder failing selective serotonin reuptake inhibitors
   Alfonso Vera and Gerald Maguire

10. The Case: The anxious depressed woman who couldn’t sit still
    The Question: How can you distinguish between bipolar disorder with mixed features and major depressive disorder with mixed features? Is it necessary to differentiate between the two?
    The Psychopharmacological Dilemma: Finding an effective regimen for recurrent, anxious depression while minimizing akathisia
    Nekisa Haghighat, Charity Hall, Dennis Alters, and Gerald Maguire

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11. The Case: The man who thinks it's the end of the world
   The Question: Can a pandemic trigger dormant psychiatric symptoms?
   The Psychopharmacological Dilemma: If some element of psychosis is personality driven, will the patient benefit from medication therapy or psychotherapy to alleviate symptoms?
   Erin Fletcher, Evagelos Coskinas, and Phuong Vo

12. The Case: Sunny with a chance of depression
   The Question: Can stimulants be used in the treatment of major depressive disorder?
   The Psychopharmacological Dilemma: How to treat recurrent major depression in patients who are resistant to various treatments and have specific comorbidities
   Madeline Saavedra, Bo Ram Yoo, Douglas Grover, and Christopher G. Fichtner

13. The Case: A not-so-simple case of anxiety
   The Question: What should you do when a patient with no history of mental illness presents with sudden psychiatric complaints, significant behavioral changes, and a variety of physical symptoms?
   The Psychopharmacological Dilemma: How to appropriately evaluate patients presenting with a broad range of symptoms, including physical, psychiatric and behavioral, in order to prevent misdiagnosis of a disease
   Karla P. Furlong, Roberto Castaños, and Bo Ram Yoo

14. The Case: I'm a woman in a man's body
   The Question: I'm not a specialist in this area. What can I do to help recognize and alleviate gender dysphoria?
   The Psychopharmacological Dilemma: Finding an effective regimen for the treatment of gender dysphoria while juggling with comorbid depression and anxiety
   Sarah Grace, Matt Jason V. Llamas, and Jami Woods

15. The Case: The spacey, fidgety son with overwhelming sadness
   The Question: How to manage adolescent depression with comorbid attention-deficit/hyperactivity disorder (ADHD)?
   The Psychopharmacological Dilemma: Being cognizant of possible drug interactions when selecting antidepressants in adolescents who also require treatment for ADHD
   Niya Larios, Casey Lester, and Carl Feinstein

16. The Case: The man who spent thousands online
   The Question: Can antiemetics play a role in the treatment of psychiatric disease?
Contents

The Psychopharmacological Dilemma: How to diagnose and treat sedative-hypnotic use disorder in an elderly patient who is sensitive to medications
   Saloni Singh and Carla Hammond

17. The Case: The traumatized mother who can't stop bingeing
   The Question: How do you treat refractory binge eating?
   The Psychopharmacological Dilemma: Will the treatment of trauma and mood disorders help resolve this patient's binge eating, or is something more needed?
   Kevin Simonson and Bo Ram Yoo

18. The Case: The man who couldn't stop hitting people
   The Question: Is there a way to further optimize treatment of violent, psychotic agitation safely beyond the combination of clozapine (Clozaril) with a mood stabilizer in someone with significant cardiovascular history?
   The Psychopharmacological Dilemma: How to reduce violent, psychotic behaviors in someone with an inadequate response to multiple empirical combinations of medications for treatment-resistant schizophrenia with behavioral agitation
   Angharad Ames and Lawrence Faziola

19. The Case: Brexpiprazole: “an awakening”
   The Question: Can the addition of brexpiprazole (Rexulti) to clozapine (Clozaril) reduce positive symptoms in a patient who has not fully responded to clozapine alone?
   The Psychopharmacological Dilemma: Can “third-generation” antipsychotics, such as brexpiprazole, be utilized in combination with clozapine for treatment-resistant psychosis?
   Troy Kurz, Lauren Kurz, and Samer Kamal

20. The Case: Treatment-resistant depression and opioid dependence
   The Question: How can we pharmacologically address refractory major depressive disorder in a patient on buprenorphine-naloxone (Suboxone) maintenance for opioid dependency?
   The Psychopharmacological Dilemma: Does ketamine interact with buprenorphine-naloxone?
   Kevin Simonson and Alexander H. Truong

21. The Case: A stiff patient
   The Question: What are the main clinical considerations when discontinuing clozapine (Clozaril) due to side effects?

viii
Contents

The Psychopharmacological Dilemma: How to improve quality of life and minimize medication side effects in a patient with medication-resistant psychotic symptoms  
Angharad Ames, Joshua Valverde, and Gerald Maguire

22. The Case: An adolescent awakening
The Question: How to manage an adolescent with treatment-resistant psychosis, underlying attention deficit hyperactivity disorder (ADHD) symptoms, daytime sedation, insomnia, and a propensity for weight gain?  
The Psychopharmacological Dilemma: Finding an effective regimen for treatment-resistant psychosis in an adolescent while managing underlying ADHD symptoms, daytime sedation, insomnia, and weight gain  
Monish Parmar and Richard J. Lee

23. The Case: The peace keeper with a left breast mass
The Question: How can neutrophil count be monitored effectively in a patient early in clozapine (Clozaril) treatment who is also undergoing simultaneous chemotherapy?  
The Psychopharmacological Dilemma: How to use the guidelines of the clozapine registration system to effectively monitor absolute neutrophil count in a patient currently taking clozapine for treatment-resistant schizophrenia while simultaneously undergoing chemotherapy?  
Diem Nguyen and Brenda Jensen

24. The Case: The girl who slept with problems
The Question: What is a treatment approach for insomnia in children with trauma and comorbid psychiatric conditions?  
The Psychopharmacological Dilemma: There is limited data regarding the safety and efficacy of medications for sleep promotion in children and adolescents, especially those with trauma  
Joseph Yasmeh and Ijeoma Ijeaku

25. The Case: Not all child’s play: a path to pediatric stability
The Question: What can you do to manage symptoms and achieve long-term stability in a pediatric patient with multiple psychiatric conditions?  
The Psychopharmacological Dilemma: Finding an effective medication regimen for a complex pediatric patient with multiple diagnoses and previous hospitalizations  
Joseph Wong, Justine Ku, and Takesha Cooper

26. The Case: The young woman who was “nothing but skin and bones”  
The Question: What is the most likely diagnosis?
Contents

The Psychopharmacological Dilemma: How to distinguish anorexia nervosa from other possible diagnoses and formulate a plan of treatment
Kayla L. Fisher and Michelle Tom

27. The Case: Could it be both? Comorbid psychiatric diagnoses
The Question: How do you distinguish between poor academic performance due to attention-deficit/hyperactivity disorder (ADHD) versus a specific learning disorder versus both?
The Psychopharmacological Dilemma: Utilizing the biopsychosocial model to provide holistic treatment and improve patient quality of life
Ruqayyah Malik, Margaret Yau, and Dennis Alters

28. The Case: Treatment-emergent mania/hypomania in a depressed patient
The Question: Can you observe manic/hypomanic side effects in a unipolar depression case after starting antidepressants?
The Psychopharmacological Dilemma: How careful should you be with antidepressants if you suspect unipolar depression versus bipolar depression when starting treatment?
Kevin Truong and Lawrence Yu

29. The Case: The border between mood and personality
The Question: Can you differentiate between borderline personality traits (disorder) from a recurring mood disorder such as major depressive disorder (MDD)?
The Psychopharmacological Dilemma: Is it necessary to differentiate between borderline personality traits (disorder) and major depressive disorder in a teenager?
Phuong Vo and Ijeoma Ijeaku

30. The Case: The student who wanted to go to rehab
The Question: How do you manage a patient with benzodiazepine withdrawal seizure?
The Psychopharmacological Dilemma: How to delineate whether the patient has benzodiazepine withdrawal psychosis or cannabis-induced psychosis in an 18-year-old male who presented with seizure
Eduardo Javier, Louis May, and Martin Sahakyan

31. The Case: The boy who wouldn’t (couldn’t) listen
The Question: What do you do when nothing you try works?
The Psychopharmacological Dilemma: How to achieve diagnostic clarity and treatment simplicity through layers of reported symptoms in a child
Alex J. Mageno, Bo Ram Yoo, and Richard J. Lee
32. The Case: The patient who went streaking
The Question: Is the patient having delirium tremens or is something else going on?
The Psychopharmacological Dilemma: Agitation: methamphetamine withdrawal delirium versus Benzodiazepine disinhibition syndrome
Louis May, Martin Sahakyan, and Eduardo Javier

33. The Case: “Perseverance”
The Question: The patient with a history of anxiety, mood lability, hypomanic symptoms, psychotic symptoms, history of substance abuse, medical issues, and multiple failed trials of medications due to side effects from medication. What is the diagnosis and how should it be managed? What medications should be used to treat bipolar disorder with mixed episodes?
The Psychopharmacological Dilemma: How to manage multiple failed trials of medications from different classes, with initial benefit but then loss of effect
Kathleen Lopez, Courtney DiNicola, and Niraj Gupta

34. The Case: Clozapine (Clozaril) candidate discombobulates compassionate clinicians
The Question: How soon is too soon to consider clozapine utilization in a patient with polymorphic symptoms? The patient presents with residual symptoms of psychosis, which included delusions and hallucinations. He has been diagnosed with schizophrenia in the past and has failed multiple trials of psychotropic medication due to side effects. Does this patient need diagnostic clarification and how should this be further managed?
The Psychopharmacological Dilemma: The patient has failed trials of multiple medications in different classes, noting only transient efficacy
Darian Vernon, Nishant Prakash, and Niraj Gupta

Index of drug names 423
Index of case studies 426
Introduction

Following on from the success of the second volume of Case Studies in 2016, we are very pleased to present a third collection of new clinical cases. This third collection of cases is the result of a special project of the Department of Psychiatry and Neuroscience of the University of California, Riverside, where all three editors are faculty members. Each case is taken from the clinical practices of the department and each is written by a team comprising a medical student or resident/fellow in psychiatry paired with a faculty member in the UCR psychiatry and neuroscience department. This volume of cases thus showcases not only the clinical practice in our department, but the teamwork of faculty and trainees to produce a scholarly and educational book to enrich and inform our colleagues who treat mental illness.

Stahl's Essential Psychopharmacology started in 1996 as a textbook (currently in its fourth edition) on how psychotropic medications work. It expanded to a companion Prescriber’s Guide in 2005 (currently in its fifth edition) on how to prescribe psychotropic medications. In 2008, a website was added (stahlonline.cambridge.org) with both of these books available online in combination with several more, including an Illustrated series of books covering specialty topics in psychopharmacology. The Case Studies shows how to apply the concepts presented in these previous books to real patients in a clinical practice setting.

Why a case book? For practitioners, it is necessary to know the science and application of psychopharmacology – namely, both the mechanism of action of psychotropic medications and the evidence-based data on how to prescribe them – but this is not sufficient to become a master clinician. Many patients are beyond the data and are excluded from randomized controlled trials. Thus, a true clinical expert also needs to develop the art of psychopharmacology: namely, how to listen, educate, destigmatize, mix psychotherapy with medications, and use intuition to select and combine medications. The art of psychopharmacology is especially important when confronting the frequent situations where there is no evidence on which to base a clinical decision.

What do you do when there is no evidence? The short answer is to combine the science with the art of psychopharmacology. The best way to learn this is probably by seeing individual patients. Here we hope you will join us and peer over our shoulders to observe 34 complex cases from our own clinical practice. Each case is anonymized in identifying details, but incorporates real case outcomes that are not fictionalized. Sometimes more than one case is combined into a single case. Hopefully, you will recognize many of these patients as similar to those you have seen in your own practice (although they will not be exactly the same patient, as the identifying historical details are changed here to comply with disclosure standards, and many patients can look
very much like many other patients you know, which is why you may find this teaching approach effective for your clinical practice).

We have presented cases from our clinical practice for many years online (e.g. in the master psychopharmacology program of the Neuroscience Education Institute (NEI) at neiglobal.com) and in live courses (especially at the annual NEI Psychopharmacology Congress). Over the years, we have been fortunate to have many young psychiatrists from our universities, and indeed from all over the world, sit in on our practices to observe these cases, and now we attempt to bring this information to you in the form of a third case book.

The cases are presented in a novel written format in order to follow consultations over time, with different categories of information designated by different background colors and explanatory icons. For those of you familiar with *The Prescriber's Guide*, this layout will be recognizable. Included in the case book, however, are many unique sections as well; for example, presenting what was on the author's mind at various points during the management of the case, and also questions along the way for you to ask yourself in order to develop an action plan. There is a pretest, asked again at the end as a posttest, for those who wish to gain CME credits (go to neiglobal.com to answer these questions and obtain credits). Additionally, these cases incorporate ideas from the recent changes in maintenance of certification standards by the American Board of Psychiatry and Neurology for those of you interested in recertification in psychiatry. Thus, there is a section on Performance in Practice (called here “Confessions of a psychopharmacologist”). There is a short section at the end of several cases looking back and seeing what could have been done better in retrospect. Another section of most cases is a short psychopharmacology lesson or tutorial, called the “Two-minute tutorial,” with background information, tables, and figures from literature relevant to the case in hand. Medications are listed by their generic and brand names for ease of learning. Indexes are included at the back of the book for your convenience. Lists of icons and abbreviations are provided in the front of the book. Finally, this third collection updates the reader on the newest psychotropic medications and their uses, and adopts the language of DSM-V.

The case-based approach is how this book attempts to complement “evidence-based prescribing” from other books in the *Essential Psychopharmacology* series, plus the literature, with “prescribing-based evidence” derived from empiric experience. It is certainly important to know the data from randomized controlled trials, but after knowing all this information, case-based clinical experience supplements those data. The old saying that applies here is that wisdom is what you learn after you know it all; and so, too, for studying cases after seeing the data.

A note of caution: we are not so naïve as to think that there are not potential pitfalls to the centuries-old tradition of case-based teaching. Thus, we think it is a good idea to point some of them out here in order to try to avoid these traps. Do not ignore the “law of small numbers” by basing broad predictions on narrow samples or even a single case. Do not ignore the fact that if something is easy to recall, particularly when associated with a significant emotional event, we tend to think it happens more often than it does.
Do not forget the recency effect, namely, the tendency to think that something that has just been observed happens more often than it does.

According to editorialists¹, when moving away from evidence-based medicine to case-based medicine, it is also important to avoid:

- Eloquence or elegance-based medicine
- Vehemence-based medicine
- Providence-based medicine
- Diffidence-based medicine
- Nervousness-based medicine
- Confidence-based medicine

We have been counseled by colleagues and trainees that perhaps the most important pitfall for us to try to avoid in this book is “eminence-based medicine,” and to remember specifically that:

- Radiance of gray hair is not proportional to an understanding of the facts
- Eloquence, smoothness of the tongue, and sartorial elegance cannot change reality
- Qualifications and past accomplishments do not signify a privileged access to the truth
- Experts almost always have conflicts of interest
- Clinical acumen is not measured in frequent flier miles

Thus, it is with all humility as practicing psychiatrists that we invite you to walk a mile in our shoes; experience the fascination, the disappointments, the thrills, and the learnings that result from observing cases in the real world.

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# List of icons

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
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<tbody>
<tr>
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### Abbreviations

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<td>CYP1A2</td>
<td>cytochrome P450 1A2</td>
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<tr>
<td>CYP2D6</td>
<td>cytochrome P450 2D6</td>
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<tr>
<td>DA</td>
<td>dopamine</td>
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<tr>
<td>DSM-4-TR</td>
<td>Diagnostic and Statistical Manual of Mental Disorders, 4th edn., text revision</td>
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<td>DSM-4/DSM-5</td>
<td>Diagnostic and Statistical Manual of Mental Disorders, 4th/5th edn.</td>
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<tr>
<td>ECG</td>
<td>electrocardiogram</td>
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<tr>
<td>EEG</td>
<td>electroencephalogram</td>
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<tr>
<td>EPS</td>
<td>extrapyramidal symptoms</td>
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<tr>
<td>ER</td>
<td>extended-release</td>
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<tr>
<td>FAST</td>
<td>Functional Adaptation and Skills Training</td>
</tr>
<tr>
<td>FDA</td>
<td>US Food and Drug Administration</td>
</tr>
<tr>
<td>fMRI</td>
<td>functional magnetic resonance imaging</td>
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<tr>
<td>GABA</td>
<td>γ-aminobutyric acid</td>
</tr>
<tr>
<td>GAD</td>
<td>generalized anxiety disorder</td>
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</tbody>
</table>
List of Abbreviations

- G-CSF: granulocyte colony-stimulating factor
- GnRH: gonadotropin-releasing hormone
- GSK3: glycogen synthase kinase 3
- HAM-D: Hamilton Depression Rating Scale
- HbA1c: hemoglobin A1c
- HDL: high-density lipoprotein
- HIV: human immunodeficiency virus
- HPA: hypothalamic–pituitary–adrenal
- ID: intellectual disability
- IDD: intellectual developmental disorder
- IEP: Individualized Education Plan
- IM: intramuscular
- IMD: institution for mental diseases
- IPT: interpersonal psychotherapy
- IR: immediate-release
- IV: intravenous
- KOR: κ-opioid receptor
- LAI: long-acting injectable
- LDL: low-density lipoprotein
- LPS: Lanterman–Petris–Short
- MAO: monoamine oxidase
- MAOI: monoamine oxidase inhibitor
- MASC: Multidimensional Anxiety Scale for Children
- MDD: major depressive disorder
- MDE: major depressive episode
- MERS: Middle East respiratory syndrome
- MMSE: mini-mental state examination
- MoCA: Montreal Cognitive Assessment
- MOR: μ-opioid receptor
- MRI: magnetic resonance imaging
- mTOR: mammalian target of rapamycin
- NDRI: norepinephrine-dopamine reuptake inhibitor
- NE: norepinephrine
- NMDA: N-methyl-D-aspartate
- NMS: neuropsychiatric systemic lupus erythematosus
- NPSLE: neuropsychiatric systemic lupus erythematosus
- OCD: obsessive–compulsive disorder
- ODT: oral disintegrating tablet
- OROS: osmotic-controlled release oral delivery system
- PARS: Pediatric Anxiety Rating Scale
- PAWSS: Prediction of Alcohol Withdrawal Severity Scale
- PO: by mouth
- PTSD: posttraumatic stress disorder
- QTc: corrected QT interval
- REM: rapid eye movement
- RVR: rapid ventricular response
- SAD: seasonal affective disorder
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<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>SARS</td>
<td>severe acute respiratory syndrome</td>
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<tr>
<td>SCA</td>
<td>spinocerebellar ataxia</td>
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<tr>
<td>SCARED</td>
<td>Screen for Child Anxiety and Related Emotional Disorders</td>
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<td>SCAS</td>
<td>Spence Children’s Anxiety Scale</td>
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<td>SCL-90-R</td>
<td>Symptom Checklist-90-Revised</td>
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<td>SLD</td>
<td>specific learning disorder</td>
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<td>SLE</td>
<td>systemic lupus erythematosus</td>
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<td>SNRI</td>
<td>serotonin-norepinephrine reuptake inhibitor</td>
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<tr>
<td>SSRI</td>
<td>selective serotonin reuptake inhibitor</td>
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<tr>
<td>T3</td>
<td>triiodothyronine</td>
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<td>T4</td>
<td>thyroxine</td>
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<td>TBI</td>
<td>traumatic brain injury</td>
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<tr>
<td>TBS</td>
<td>Therapeutic Behavioral Services</td>
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<td>TR</td>
<td>time-release</td>
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<td>TSH</td>
<td>thyroid-stimulating hormone</td>
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<td>UDS</td>
<td>urine drug screen</td>
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<td>VEGF</td>
<td>vascular endothelial growth factor</td>
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<td>VLPFC</td>
<td>ventrolateral prefrontal cortex</td>
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<td>VMAT2</td>
<td>vesicular monoamine transporter-2</td>
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<td>WISC</td>
<td>Wechsler Intelligence Scale for Children</td>
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<td>World Professional Association for Transgender Health</td>
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