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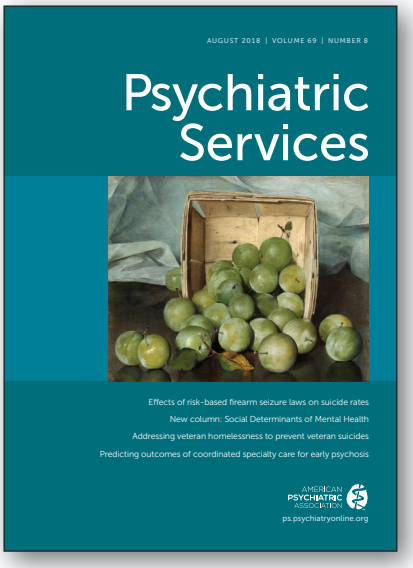


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**JUST PUBLISHED!**

# Telepsychiatry and Health Technologies

## A Guide for Mental Health Professionals

*Peter Yellowlees, MBBS, M.D., and Jay H. Shore, M.D., M.P.H.*


*Telepsychiatry and Health Technologies: A Guide for Mental Health Professionals* is a practical guide for psychiatrists and other mental health professionals seeking to exploit the enormous potential of today's innovative digital technologies to improve the quality, accessibility, and cost-effectiveness of care for patients with psychiatric disorders. Taking the doctor–patient relationship as its consistent focus, the book explores currently available mental health care delivery technologies—from telephony, smartphones, and apps to e-mail, secure texting, and videoconferencing—and offers practical advice to clinicians on how best to make use of these tools to provide high-quality care to their patients. Beginning with an overview of current psychiatric practice, the authors cover the broader context of telepsychiatry, including its history and evidence base; give specific guidance on setting up and managing a telepsychiatry practice; and discuss in-person, online, and hybrid models of care, as well as data collection, electronic records, clinical documentation, and ethics.

Foremost a clinical manual, *Telepsychiatry and Health Technologies: A Guide for Mental Health Professionals* argues that the sensible use of health care technologies will reduce the current gap between mental health care supply and demand, improve models of care delivery, and ultimately lead to better health for more patients than traditional systems of care can provide.

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# INGREZZA® (valbenazine) capsules
for oral use

**Brief Summary:** for full Prescribing Information and Patient Information, refer to package insert.

## INDICATIONS AND USAGE
INGREZZA is a vesicular monoamine transporter 2 (VMAT2) inhibitor indicated for the treatment of adults with tardive dyskinesia.

## WARNINGS AND PRECAUTIONS
**Somnolence**

INGREZZA can cause somnolence. Patients should not perform activities requiring mental alertness such as operating a motor vehicle or operating hazardous machinery until they know how they will be affected by INGREZZA.

**QT Prolongation**

INGREZZA may prolong the QT interval, although the degree of QT prolongation is not clinically significant at concentrations expected with recommended dosing. In patients taking a strong CYP2D6 or CYP3A4 inhibitor, or who are CYP2D6 poor metabolizers, INGREZZA concentrations may be higher and QT prolongation clinically significant. For patients who are CYP2D6 poor metabolizers or are taking a strong CYP2D6 inhibitor, dose reduction may be necessary. For patients taking a strong CYP3A4 inhibitor, reduce the dose of INGREZZA to 40 mg once daily. INGREZZA should be avoided in patients with congenital long QT syndrome or with arrhythmias associated with a prolonged QT interval. For patients at increased risk of a prolonged QT interval, assess the QT interval before increasing the dosage.

## ADVERSE REACTIONS
The following adverse reactions are discussed in more detail in other sections of the labeling:

- Somnolence
- QT Prolongation

**Clinical Trials Experience**

Because clinical trials are conducted under widely varying conditions, adverse reaction rates observed in the clinical trials of a drug cannot be directly compared to rates in the clinical trials of another drug and may not reflect the rates observed in practice.

Variable and Fixed Dose Placebo-Controlled Trial Experience

The safety of INGREZZA was evaluated in 3 placebo-controlled studies, each 6 weeks in duration (fixed dose, dose escalation, dose reduction), including 445 patients. Patients were 26 to 84 years of age with moderate to severe tardive dyskinesia and had concurrent diagnoses of mood disorder (27%) or schizophrenia/schizoaffective disorder (72%). The mean age was 56 years. Patients were 57% Caucasian, 39% African-American, and 4% other. With respect to ethnicity, 28% were Hispanic or Latino. All subjects continued previous stable regimens of antipsychotics; 85% and 27% of subjects, respectively, were taking atypical and typical antipsychotic medications at study entry.

*Adverse Reactions Leading to Discontinuation of Treatment*

A total of 3% of INGREZZA treated patients and 2% of placebo-treated patients discontinued because of adverse reactions.

*Common Adverse Reactions*

Adverse reactions that occurred in the 3 placebo-controlled studies at an incidence of ≥2% and greater than placebo are presented in Table 1.

**Table 1: Adverse Reactions in 3 Placebo-Controlled Studies of 6-week Treatment Duration Reported at ≥2% and >Placebo**

| Adverse Reaction[1] | INGREZZA (n=262) (%) | Placebo (n=183) (%) |
|---|---|---|
| **General Disorders** | | |
| Somnolence (somnolence, fatigue, sedation) | 10.9% | 4.2% |
| **Nervous System Disorders** | | |
| Anticholinergic effects (dry mouth, constipation, disturbance in attention, vision blurred, urinary retention) | 5.4% | 4.9% |
| Balance disorders/fall (fall, gait disturbance, dizziness, balance disorder) | 4.1% | 2.2% |
| Headache | 3.4% | 2.7% |
| Akathisia (akathisia, restlessness) | 2.7% | 0.5% |
| **Gastrointestinal Disorders** | | |
| Vomiting | 2.6% | 0.6% |
| Nausea | 2.3% | 2.1% |
| **Musculoskeletal Disorders** | | |
| Arthralgia | 2.3% | 0.5% |

[1] Within each adverse reaction category, the observed adverse reactions are listed in order of decreasing frequency.

*Other Adverse Reactions Observed During the Premarketing Evaluation of INGREZZA*

Other adverse reactions of ≥1% incidence and greater than placebo are shown below. The following list does not include adverse reactions: 1) already listed in previous tables or elsewhere in the labeling, 2) for which a drug cause was remote, 3) which were so general as to be uninformative, 4) which were not considered to have clinically significant implications, or 5) which occurred at a rate equal to or less than placebo.

*Endocrine Disorders:* blood glucose increased

*General Disorders:* weight increased

*Infectious Disorders:* respiratory infections

*Neurologic Disorders:* drooling, dyskinesia, extrapyramidal symptoms (non-akathisia)

*Psychiatric Disorders:* anxiety, insomnia

During controlled trials, there was a dose-related increase in prolactin. Additionally, there was a dose-related increase in alkaline phosphatase and bilirubin, suggesting a potential risk for cholestasis.

## DRUG INTERACTIONS
**Drugs Having Clinically Important Interactions with INGREZZA**

**Table 2: Clinically Significant Drug Interactions with INGREZZA**

| | |
|---|---|
| **Monoamine Oxidase Inhibitors (MAOIs)** | |
| *Clinical Implication:* | Concomitant use of INGREZZA with MAOIs may increase the concentration of monoamine neurotransmitters in synapses, potentially leading to increased risk of adverse reactions such as serotonin syndrome, or attenuated treatment effect of INGREZZA. |
| *Prevention or Management:* | Avoid concomitant use of INGREZZA with MAOIs. |
| *Examples:* | isocarboxazid, phenelzine, selegiline |
| **Strong CYP3A4 Inhibitors** | |
| *Clinical Implication:* | Concomitant use of INGREZZA with strong CYP3A4 inhibitors increased the exposure ($C_{max}$ and AUC) to valbenazine and its active metabolite compared with the use of INGREZZA alone. Increased exposure of valbenazine and its active metabolite may increase the risk of exposure-related adverse reactions. |
| *Prevention or Management:* | Reduce INGREZZA dose when INGREZZA is coadministered with a strong CYP3A4 inhibitor. |
| *Examples:* | itraconazole, ketoconazole, clarithromycin |
| **Strong CYP2D6 Inhibitors** | |
| *Clinical Implication:* | Concomitant use of INGREZZA with strong CYP2D6 inhibitors may increase the exposure ($C_{max}$ and AUC) to valbenazine's active metabolite compared with the use of INGREZZA alone. Increased exposure of active metabolite may increase the risk of exposure-related adverse reactions. |
| *Prevention or Management:* | Consider reducing INGREZZA dose based on tolerability when INGREZZA is coadministered with a strong CYP2D6 inhibitor. |
| *Examples:* | paroxetine, fluoxetine, quinidine |
| **Strong CYP3A4 Inducers** | |
| *Clinical Implication:* | Concomitant use of INGREZZA with a strong CYP3A4 inducer decreased the exposure of valbenazine and its active metabolite compared to the use of INGREZZA alone. Reduced exposure of valbenazine and its active metabolite may reduce efficacy. |
| *Prevention or Management:* | Concomitant use of strong CYP3A4 inducers with INGREZZA is not recommended. |
| *Examples:* | rifampin, carbamazepine, phenytoin, St. John's wort[1] |
| **Digoxin** | |
| *Clinical Implication:* | Concomitant use of INGREZZA with digoxin increased digoxin levels because of inhibition of intestinal P-glycoprotein (P-gp). |
| *Prevention or Management:* | Digoxin concentrations should be monitored when co-administering INGREZZA with digoxin. Increased digoxin exposure may increase the risk of exposure related adverse reactions. Dosage adjustment of digoxin may be necessary. |

[1] The induction potency of St. John's wort may vary widely based on preparation.

**Drugs Having No Clinically Important Interactions with INGREZZA**

Dosage adjustment for INGREZZA is not necessary when used in combination with substrates of CYP1A2, CYP2B6, CYP2C8, CYP2C9, CYP2C19, CYP2E1, or CYP3A4/5 based on *in vitro* study results.

## OVERDOSAGE
**Human Experience**

The pre-marketing clinical trials involving INGREZZA in approximately 850 subjects do not provide information regarding symptoms with overdose.

**Management of Overdosage**

No specific antidotes for INGREZZA are known. In managing overdose, provide supportive care, including close medical supervision and monitoring, and consider the possibility of multiple drug involvement. If an overdose occurs, consult a Certified Poison Control Center (1-800-222-1222 or www.poison.org).

For further information on INGREZZA, call 84-INGREZZA (844-647-3992).

Neurocrine Biosciences

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CP-VBZ-US-0203v2 09/17

INGREZZA®
(valbenazine) capsules

THE FIRST FDA-APPROVED TREATMENT INDICATED FOR ADULTS WITH **TARDIVE DYSKINESIA (TD)**[1]

# ONE CAPSULE, ONCE DAILY[1]

Convenient, once-daily dosing without complex titration[1]

Not actual size

- INGREZZA 80 mg provided rapid and significant reductions in TD severity by 6 weeks[1,2]
  —with continued reductions in TD severity through 48 weeks[1,3]
- Generally well tolerated in clinical trials across a broad range of adult TD patients[1,2]
- Selectively inhibits VMAT2, with no appreciable binding affinity for dopaminergic (including D2) or serotonergic receptors[1]


Not an actual patient

VMAT2, vesicular monoamine transporter 2.

SIGN UP FOR NEWS AND UPDATES AT **WWW.INGREZZAHCP.COM/REGISTER**

## Important Information

## INDICATION & USAGE

INGREZZA® (valbenazine) capsules is indicated for the treatment of adults with tardive dyskinesia.

## IMPORTANT SAFETY INFORMATION

## WARNINGS & PRECAUTIONS

### Somnolence

INGREZZA can cause somnolence. Patients should not perform activities requiring mental alertness such as operating a motor vehicle or operating hazardous machinery until they know how they will be affected by INGREZZA.

### QT Prolongation

INGREZZA may prolong the QT interval, although the degree of QT prolongation is not clinically significant at concentrations expected with recommended dosing. INGREZZA should be avoided in patients with congenital long QT syndrome or with arrhythmias associated with a prolonged QT interval. For patients at increased risk of a prolonged QT interval, assess the QT interval before increasing the dosage.

## ADVERSE REACTIONS

The most common adverse reaction (≥5% and twice the rate of placebo) is somnolence. Other adverse reactions (≥2% and >placebo) include: anticholinergic effects, balance disorders/falls, headache, akathisia, vomiting, nausea, and arthralgia.

You are encouraged to report negative side effects of prescription drugs to the FDA. Visit MedWatch at www.fda.gov/medwatch or call 1-800-FDA-1088.

**Please see the adjacent page for brief summary of Prescribing Information and visit www.INGREZZAHCP.com for full Prescribing Information.**

**REFERENCES: 1.** INGREZZA [package insert]. San Diego, CA: Neurocrine Biosciences, Inc; 2017. **2.** Hauser RA, Factor SA, Marder SR, et al. KINECT 3: a phase 3 randomized, double-blind, placebo-controlled trial of valbenazine for tardive dyskinesia. *Am J Psychiatry*. 2017;174(5):476-484. **3.** Factor SA, Remington G, Comella CL, et al. The effects of valbenazine in participants with tardive dyskinesia: results of the 1-Year KINECT 3 extension study. *J Clin Psychiatry*. 2017;78(9):1344-1350.



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