

PRESCRIBER'S GUIDE

GETTING STARTED WITH ^{Pr}JINARC[®]



The ORIIN-al tolvaptan is JINARC¹



ORIIN[®] is the Patient Support Program for patients on JINARC.

Our unwavering commitment to you and your patients continues.

JINARC is the first treatment indicated in ADPKD.*

Trust in our 10+ years of experience in Canada.†

**Your guide to discussing and prescribing JINARC
With the commitment of the ORIIN team**

^{Pr}JINARC[®] (tolvaptan) is indicated to slow the progression of kidney enlargement and kidney function decline in adult patients with autosomal dominant polycystic kidney disease (ADPKD). In ADPKD, kidney enlargement reflects renal cyst burden.¹

* Comparative clinical significance unknown.

† Clinical significance unknown.

Pr JINARC® FOR PATIENTS WITH ADPKD

JINARC is the first treatment indicated to slow the progression of kidney enlargement and kidney function decline in patients with ADPKD. In ADPKD, kidney enlargement reflects renal cyst burden.^{1,2}

Increased kidney size and renal cyst burden are indicative of disease progression.^{3,4}

About this guide

This guide was written to support you in prescribing JINARC. It will:

- help you identify which patients are best suited for treatment with JINARC
- list the contraindications to JINARC
- clarify the hepatic safety warning
- explain the conditions to use JINARC, including:
 - liver monitoring requirements, and the JINARC Controlled Hepatic Safety Monitoring and Distribution (HSMD) Programme that will support you and your patients with the required, ongoing monitoring
 - the Patient-Prescriber Agreement Form (PPAF) that you and each patient must co-sign as part of the prescription process
- help you review the potential risks and benefits of JINARC with your patients (supporting the full Product Monograph)
- give you an overview of titration and dose adjustments for JINARC, including recommendations regarding concomitant medications

RECOGNIZING APPROPRIATE PATIENTS FOR PrJINARC®

ATTRIBUTES OF PATIENTS WHO CAN BENEFIT FROM JINARC

TEMPO 3:4

- Have rapidly-progressing ADPKD (meeting modified Ravine criteria)
- Are at early stage of CKD
- TKV ≥ 750 mL
- Estimated creatinine clearance ≥ 60 mL/min

REPRISE

- Have high risk of progressive eGFR decline based on renal function for age (18 to 65 years of age with baseline eGFR between 25 and 65 mL/min/1.73m²)

FACTORS ASSOCIATED WITH RAPID PROGRESSION



Large TKV for given age



Presence of systemic hypertension or albuminuria



Rapid deterioration of renal function



CKD Stage 2-3

Patients without evidence of hypertension, and especially those at an early stage of disease with excellent renal function (eCrCl ≥ 120 mL/min) consistent with compensatory hyperfiltration appear to show little near-term benefit in terms of TKV progression or diminution of renal function decline.

SELECT WARNINGS AND PRECAUTIONS FOR Pr JINARC®

Contraindications

JINARC is contraindicated in:

- Patients who have been asked to permanently discontinue tolvaptan
- Patients with known or suspected hypersensitivity to tolvaptan, benzazepine or benzazepine derivatives (e.g., mirtazapine) or any of the excipients
- Patients with hypovolemia
- Patients with hypernatremia
- Patients with anuria
- Patients who do not have access to fluids or who cannot respond to the physiologic sensation of thirst
- Patients with a history, signs or symptoms of significant liver impairment or injury, excluding uncomplicated polycystic liver disease
- Patients using strong CYP3A inhibitors, e.g., ketoconazole, itraconazole, clarithromycin, telithromycin, ritonavir, indinavir, nelfinavir, saquinavir, nefazodone
- Pregnancy
- Nursing women
- Patients with one of the following rare hereditary diseases: galactose intolerance, Lapp lactase deficiency or glucose-galactose malabsorption

Warning: Idiosyncratic hepatic toxicity

Pr JINARC® use has led to idiosyncratic elevations of blood alanine and aspartate aminotransferases (ALT & AST), rarely associated with concomitant elevations of total bilirubin. To help mitigate the risk of liver injury, blood testing for hepatic transaminases and total bilirubin is required prior to initiation of JINARC, then blood testing for hepatic transaminases is required:

- monthly for 18 months
- every 3 months for the next 12 months
- every 3–6 months thereafter during treatment with JINARC

Therefore, JINARC is available for treatment of patients with ADPKD only through a controlled hepatic safety monitoring and distribution programme conducted and maintained by, or for, the market authorization holder of JINARC.

In TEMPO 3:4, a double-blind, randomized, placebo-controlled trial in patients with ADPKD (N=1,445; n=961 tolvaptan), 2 (2/957, 0.2%) tolvaptan-treated patients as well as a third from an open-label extension trial exhibited increases in hepatic enzymes (>3x upper limit of normal [ULN]) with concomitant elevations in total bilirubin (>2x ULN) when monitoring for liver enzymes elevation was every 3–4 months. These concomitant elevations were gradually reversible with prompt discontinuation of tolvaptan; however, they represent a potential for significant liver injury.

In REPRISE, a double-blind, randomized, placebo-controlled trial in patients with later stages of ADPKD (N=1,519; n=1,370 randomized; n=683 randomized to tolvaptan), all patients were monitored monthly for liver enzymes elevation and none of them showed this concomitant level of hepatic enzyme and bilirubin elevation.

This suggests that monthly liver function monitoring during treatment helps detect liver enzyme elevation early on.

In post-marketing experience with tolvaptan in ADPKD, acute liver failure requiring liver transplantation has been reported.

Regular monitoring helps mitigate the risk of significant and/or irreversible liver injury. Concurrent monitoring for symptoms that may indicate liver injury (e.g., fatigue, anorexia, nausea, upper right abdominal discomfort, vomiting, fever, rash, pruritus, icterus, dark urine or jaundice) is also warranted.

Actions for abnormal results

At the onset of symptoms or signs consistent with hepatic injury, or if abnormal ALT or AST increases are detected, ^{Pr}JINARC® administration must be immediately interrupted and liver function tests (LFTs) – i.e., ALT, AST, total bilirubin, alkaline phosphatase – must be obtained as soon as possible, ideally within 48–72 hours. Testing should continue at an increased frequency until symptoms/signs/laboratory abnormalities stabilize or resolve, at which point cautious reinitiation of JINARC may be considered.

Current clinical practice suggests that JINARC treatment should be immediately interrupted upon confirmation of sustained or increasing transaminase levels, and permanently discontinued if significant increases and/or clinical symptoms of hepatic injury persist. Recommended guidelines for permanent discontinuation include:

- ALT or AST >8-times ULN
- ALT or AST >5-times ULN, for more than 2 weeks
- ALT or AST >3-times ULN, **and** total bilirubin >2x ULN or international normalized ratio (INR) >1.5
- ALT or AST >3-times ULN, with persistent symptoms of hepatic injury as noted above

Permanent discontinuation from receiving tolvaptan is a contraindication, and so once a patient has been permanently discontinued from receiving tolvaptan, treatment must **never be** restarted. The permanent discontinuation status of patients should be verified prior to initiation with tolvaptan.

Pregnancy prevention and other cautions and precautions

- Women of childbearing potential must be advised to use highly effective contraceptive measures prior to and during ^{Pr}JINARC[®] use.
- Highly effective contraception is a method of birth control which results in a low failure rate (i.e., less than 1% per year) when used consistently and correctly.
- JINARC use is contraindicated in pregnant and nursing women.

For women of childbearing potential, the nurses at the ORIJIN[®] Patient Support Program will ensure that:

- A negative serum or urine pregnancy test with a sensitivity of at least 25 mIU/mL is obtained within 1 week prior to beginning treatment with JINARC
- The negative pregnancy test is obtained for every new patient
- They answer all of the patients' questions on pregnancy and nursing

**The ORIJIN Patient Support Program:
Experienced, Established and Engaged.**



Please read the Product Monograph for full information regarding dehydration, concomitant use of CYP3A inhibitors or inducers, P-gp inhibitors, hepatotoxicity, hypernatremia, hyperkalemia, hyperuricemia, hypotension-related events, serum sodium abnormalities, hepatic impairment, and renal impairment.

Pr JINARC® CONDITIONS OF USE

The JINARC Controlled Hepatic Safety Monitoring and Distribution (HSMD) Programme

The manufacturer of JINARC has implemented a safety monitoring initiative with regard to the use and access to JINARC. This initiative is called the JINARC HSMD Programme. All prescribers and patients must take part in the HSMD Programme in order to prescribe/receive JINARC in Canada.

The HSMD Programme facilitates blood testing and results confirmation between the patient, the pharmacy and you, to support long-term monitoring and safety. The HSMD Programme will follow up with you for every required test, to find out if the test was done and to confirm the result (ALT or AST ≤ 3 -times ULN). The HSMD Programme supports you in reminding patients to go for their blood tests, and will distribute JINARC to the patient's pharmacy when the monitoring conditions (e.g., blood tests) are met.

For an overview of how the HSMD Programme works, see the diagram on the next page.

Who can prescribe JINARC

JINARC should be initiated and monitored under the supervision of a nephrologist or specialist with expertise in the management of patients with ADPKD and a full understanding of the benefits and risks of tolvaptan therapy including hepatic toxicity and monitoring requirements.

Online support education

The manufacturer of JINARC recommends that you and all other members of the ADPKD management team complete the online training module: *JINARC Educational Training Module*.



The module is available at [JINARC.CA](https://www.jinarc.ca).

HOW TO INITIATE AND CONTINUE PATIENTS ON Pr JINARC®

Follow the prescriber's steps and let ORIJIN® help with the rest!

Prescribers

- ✓ Co-sign PPAF with patient
- ✓ Provide prescription and LFT orders for HSMD Programme: Every month for 18 months

ORIJIN Team

- ✓ Receives, validates and stores PPAF
- ✓ Contacts patient to confirm enrollment and understanding of HSMD Programme
- ✓ Ships supply of JINARC to pharmacy for dispensing if all PPAF conditions are met
- ✓ Sends blood test reminders to patient (as per patient preference)
- ✓ Conducts follow-up of LFT result status with prescriber, using the LFT fax-back form

**The ORIJIN® Patient Support Program
Experienced, Established and Engaged.**



DOSING AND TITRATING ^{Pr}JINARC®

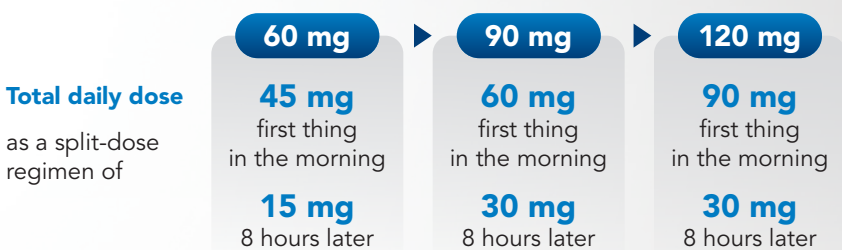
JINARC: Split-dose regimen

JINARC is taken twice a day. The total daily dose is given as a split-dose regimen, with a higher dose taken in the morning, and a second, lower dose taken 8 hours later.

Dose titration process

Titration intervals should be at least 1 week. Titration should be done judiciously to ensure that high doses are not poorly tolerated through overly-rapid up-titration. In addition, dosing may be down-titrated and up-titrated again as appropriate.

The dose should be up-titrated as shown:



Dose titration goal

The aim of dose titration is to block activity of vasopressin at the renal V₂-receptor as completely and constantly as possible, to achieve optimal effect on TKV progression or diminution of renal function decline while maintaining acceptable fluid balance.

Patients should normally be maintained on the highest tolerated dose.

The importance of adherence

Patients should be told that unnecessary treatment interruption should be avoided, and that daily adherence to JINARC is important to achieve the best possible outcomes in terms of diminution of renal cyst progression and preservation of renal function.

Consult the Product Monograph for full dosing and titration information.

ADMINISTRATION AND MISSED DOSES

Pr JINARC® should be taken:

- with or without meals
- without grapefruit juice (and not after eating grapefruit, due to a significant increase in tolvaptan concentrations)

All patients on JINARC should be encouraged to drink water liberally on an ongoing basis in order to match increased urine output, and reduce the likelihood of dehydration and hypernatremia from the aquaretic effects of JINARC. Treatment should be interrupted if the ability to drink or accessibility to water is limited.

Missed doses

If a patient misses a dose, he/she should take the next dose at the scheduled time and prescribed level.

Patients should not take 2 doses at the same time.

DOSAGE ADJUSTMENTS TO Pr JINARC®: DRUG-DRUG INTERACTIONS

JINARC is a substrate of CYP3A, and thus co-administration with CYP3A inhibitors or CYP3A inducers may lead to a change in exposure.

Concomitant use with strong CYP3A inducers should be avoided.

Where dose adjustments are recommended or required, response should be monitored, and the dose adjusted accordingly.

Drug category	Adjustments of JINARC
Strong CYP3A inhibitors	Concomitant use with strong CYP3A4 inhibitors is contraindicated as it may lead to significant increase in tolvaptan exposure.
Moderate CYP3A inhibitors	Dose reduction required.
P-gp inhibitors	Dose reduction may be required in patients concomitantly treated with P-gp inhibitors, based on clinical response. However, concomitant use with those P-gp inhibitors that also act as strong CYP3A inhibitors is contraindicated.
CYP3A substrates	In healthy subjects, tolvaptan, a CYP3A substrate, had no effect on the plasma concentrations of some other CYP3A substrates (e.g., warfarin or amiodarone). However, tolvaptan increased plasma levels of lovastatin by 1.3 to 1.4-fold, indicating a potential effect on weak substrates of CYP3A substrates.

DOSAGE ADJUSTMENTS TO OTHER DRUGS, FOODS, AND HERBS

Drug category	Interaction effects
Digoxin	Steady state digoxin concentrations were statistically significantly increased (approximately 30% increase as determined by C_{max} and 20% increase as determined by AUC_t) when digoxin was co-administered with multiple 60 mg doses (QD) of tolvaptan; <i>in vitro</i> studies indicate that tolvaptan is a substrate and competitive inhibitor of p-glycoprotein. Patients receiving digoxin should be evaluated for excessive digoxin effects after adding tolvaptan.
Warfarin, amiodarone, furosemide, and hydrochlorothiazide	Co-administration of tolvaptan does not appear to alter the pharmacokinetics of warfarin, furosemide, hydrochlorothiazide, or amiodarone (or its active metabolite, desethylamiodarone) to a clinically significant degree.
Vasopressin analogues	Co-administration not recommended. <ul style="list-style-type: none"><li data-bbox="312 943 942 1159">• In addition to its V_2-receptor mediated renal aquaretic effects, tolvaptan blocks vascular vasopressin V_2-receptors involved in the release of coagulation factors (e.g., von Willebrand's factor) from endothelial cells. Therefore, the effect of vasopressin analogues such as desmopressin may be attenuated in patients using these therapies concomitantly with tolvaptan.

Drug category	Interaction effects
Grapefruit juice	Co-administration of tolvaptan with 240 mL of grapefruit juice produced a doubling of peak tolvaptan concentrations (C_{max}) but had no effect on tolvaptan elimination half-life. Pr JINARC® should not be taken with grapefruit juice.
St John's Wort	Interactions with herbal products have not been established; however, St John's Wort should be avoided while taking JINARC.
Furosemide or hydrochlorothiazide (HCTZ): Pharmacodynamic interactions	Tolvaptan use alone produces a greater 24-hour urine volume than does furosemide or HCTZ alone. However, concomitant administration of tolvaptan with furosemide or HCTZ results in a 24-hour volume that is similar to that after tolvaptan administration alone. Furosemide co-administered with tolvaptan produces a similar maximal rate of urine excretion compared to furosemide alone and 70% higher than tolvaptan alone. HCTZ co-administered with tolvaptan produces a slightly higher maximal excretion rate compared to tolvaptan alone and 66% higher compared to HCTZ alone.

Consult the Product Monograph for full dosing and dose adjustment information.



ORIJIN®: THE VALUE-ADDED PATIENT SUPPORT PROGRAM, AVAILABLE FOR Pr JINARC® PATIENTS

Key support services include:

For patients



Dedicated Expert Nursing Services

Our expert nurses provide personalized care, treatment education, and emotional support to help your patients manage their PKD journey.



Convenient Home Blood Work Program

We offer convenient home blood work or phone call reminders for liver function monitoring, ensuring easy access and timely results.



No additional cost for branded JINARC

Patients with private insurance have access to a pharmacy Co-Pay card. This is designed to help patients by eliminating any out-of-pocket cost for branded JINARC. This program will cover any potential cost differences between JINARC and the patient's private payer plan.

For patients and HCPs



Dedicated Website

Our website provides current resources, newsletters, and expert tips, along with support from the ORIJIN team to guide patients through their JINARC treatment journey.



Scan here

For over 10 years, ^{Pr}JINARC® patients and prescribers have had specific access to the various services provided by ORIJIN®, an experienced, established and engaged program designed to support the treatment journey.

For patients



Skilled Reimbursement Assistance

Our reimbursement navigators help patients navigate financial options, enabling informed decisions about accessing JINARC for ADPKD care.



Pharmacy Services and Delivery

Patients have access to a pharmacy team with JINARC expertise and flexible medication delivery to their preferred location, whether at home or work.



Nutritional Support and Educational Webinars

We offer educational webinars led by dietitians specializing in ADPKD, helping patients make informed dietary and lifestyle choices to complement their JINARC treatment.

If you have any questions about the ORIJIN Patient Support Program or JINARC, you can reach out to your ORIJIN Team at 1-844-254-6272 or your JINARC representative.



Your direct line to JINARC support

SAFETY INFORMATION

Clinical use:

- In order to select patients who might best benefit from the effects of PrJINARC®, clinical trials evaluated ADPKD patients having a total kidney volume (TKV) ≥ 750 mL, and/or renal function corresponding to a CKD-EPI eGFR ≥ 25 mL/min/1.73 m², at the time of initiation of treatment.
- JINARC treatment should be initiated and monitored under the supervision of a nephrologist or specialist with expertise in the management of patients with ADPKD and a full understanding of the benefits and risks of tolvaptan therapy including hepatic toxicity and monitoring requirements.
- Careful consideration and discussion of the appropriateness of JINARC treatment should be undertaken between the prescriber and patient before initiation of therapy, taking into account the potential benefits and risks of treatment. Upon mutual agreement to undertake treatment with JINARC, a signed, duly-documented, manufacturer and product-specific patient-prescriber agreement form (PPAF) is required outlining the relevant patient selection criteria to be considered, expected benefits and risks of treatment, and the need for mandatory hepatic function monitoring.
- **JINARC Controlled Hepatic Safety Monitoring and Distribution Programme:** JINARC is available for treatment of patients with ADPKD only through a manufacturer and product-specific controlled hepatic safety monitoring and distribution (HSMD) programme conducted and maintained by, or for, the market authorization holder of JINARC. A duly signed manufacturer and product-specific PPAF is required for enrollment in the HSMD Programme. For more information on the programme, please call 1-844-254-6272.
- Safety and effectiveness have not been established in geriatrics (>65).

Contraindications:

JINARC is contraindicated in:

- Patients who have been asked to permanently discontinue tolvaptan
- Patients with known or suspected hypersensitivity to tolvaptan, benzazepine or benzazepine derivatives (e.g., mirtazapine) or any of the excipients
- Patients with hypovolemia
- Patients with hypernatremia
- Patients with anuria
- Patients who do not have access to fluids or who cannot respond to the physiologic sensation of thirst
- Patients with a history, signs or symptoms of significant liver impairment or injury, excluding uncomplicated polycystic liver disease
- Patients using strong CYP3A inhibitors, e.g., ketoconazole, itraconazole, clarithromycin, telithromycin, ritonavir, indinavir, nelfinavir, saquinavir, nefazodone
- Pregnancy
- Nursing women
- Patients with one of the following rare hereditary diseases: galactose intolerance, Lapp lactase deficiency or glucose-galactose malabsorption

Most serious warnings and precautions:

Idiosyncratic hepatic toxicity: JINARC use has led to idiosyncratic elevations of blood alanine and aspartate aminotransferases (ALT & AST), rarely associated with concomitant elevations of total bilirubin. To help mitigate the risk of liver injury, blood testing for hepatic transaminases and total bilirubin is required prior to initiation of JINARC, then blood testing for hepatic transaminases is required:

- monthly for 18 months
- every 3 months for the next 12 months
- every 3–6 months thereafter during treatment with JINARC

Therefore, JINARC is available for treatment of patients with ADPKD only through a controlled hepatic safety monitoring and distribution programme conducted and maintained by, or for, the market authorization holder of JINARC.

Other relevant warnings and precautions:

- Risk of dehydration
- Interactions with moderate CYP3A inhibitors, CYP3A inducers or P-glycoprotein inhibitors
- Hepatotoxicity: Acute liver failure
- Anaphylaxis
- Hyponatremia: Concomitant use with hypertonic saline solutions or drugs that may increase serum sodium should be avoided
- Hyperkalemia
- Hyperuricemia
- Hypotension: Co-administration with antihypertensive medications may cause increase in hypotension-related adverse events, including dizziness or syncope
- Serum sodium abnormalities must be corrected prior to JINARC initiation
- Use of contraception in women of childbearing potential
- Vasopressin analogues: Co-administration not recommended
- Caution when driving vehicles or operating machinery

For more information:

Consult the Product Monograph at jinarcmonograph.ca for adverse reactions, interactions, dosing, monitoring tests and conditions of clinical use. The Product Monograph is also available by calling 1-877-341-9245.

References:

1. JINARC Product Monograph. Otsuka Canada Pharmaceutical Inc.
2. Data on file – First Claim. Otsuka Canada Pharmaceutical Inc.
3. Chapman AB, Bost JE, Torres VE et al. *Clin J Am Soc Nephrol* 2012;7:479–86.
4. Grantham JJ, Torres VE, Chapman AB et al. *N Engl J Med* 2006;354:2122–30.



All trademarks identified by a ® or a ™ are protected trademarks (registered or unregistered) of their owners or licensors. For more information, please visit www.otsukacanadatm-mc.ca.

© Otsuka Canada Pharmaceutical Inc. All rights reserved.

OCPI-JIN-00340E

