

VALPROATE
GUIDE

FOR HEALTHCARE PROFESSIONALS

who manage girls and women
of childbearing potential
and male patients
treated with valproate*

Includes information on use
of valproate in accordance
with the pregnancy
prevention program

**YOU MUST READ THIS GUIDE CAREFULLY BEFORE
ANY PRESCRIPTION OF VALPROATE TO GIRLS (OF ANY AGE),
WOMEN OF CHILDBEARING POTENTIAL AND MALE PATIENTS**

Information about valproate use can also be found on-line at [<webpage>](#) *(only for Member States with web-based implementation of the additional Risk Minimization Measures)*

<It is recommended that pregnant women taking valproate are enrolled in a registry capturing the use of antiepileptic drugs during pregnancy or any similar data collection exercise at a national level *{to be adapted at national level}*>.

* Valproate is a generic term including valproic acid, valproate sodium, valproate semisodium, valproate magnesium, and valpromide.

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Purpose of this Healthcare Professional guide

Valproate use during pregnancy is harmful for the unborn child. Children exposed in utero to valproate have a higher risk for:

- Congenital malformations,
- Neurodevelopmental disorders.

There is a potential risk of neurodevelopmental disorders in children born to men treated with valproate in the 3 months prior to conception.

Valproate educational tools have been developed specifically for HCPs, female and male patients. They include:

- This HCP Guide
- An Annual Risk Acknowledgement Form (only for female patients)
- 2 different Patient Guides (for female and male patients)
- A Patient Card

The objective of this HCP guide is to provide all HCPs involved in the patient journey with information about:

- The prescribing conditions in girls, WCBP and male patients,
- The teratogenic and neurodevelopmental risks, associated with the use of valproate during pregnancy,
- The potential neurodevelopmental risk, associated with the use of valproate in the 3 months prior to conception for male patients,
- The actions necessary to minimize the risks.

HCPs targeted by this guide include:

- Specialists,
- General Practitioners,
- Gynecologists/Obstetricians, Midwives, Nurses,
- Pharmacists

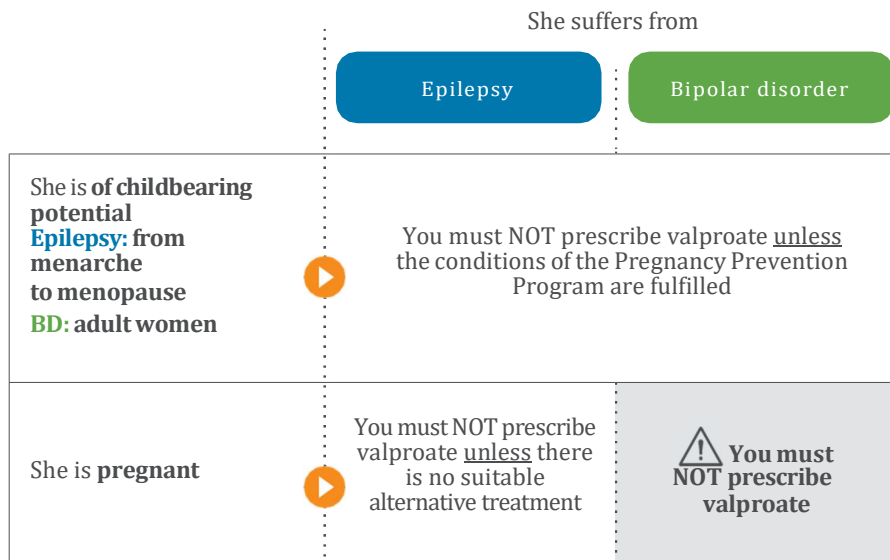
{to be adapted at national level}

For patients who are minors or without the capacity to make an informed decision, provide the information to their parents/legal representative/caregiver and make sure they clearly understand it.

Please read the most up-to-date version of the Summary of Product Characteristics before prescribing valproate.

1 What you must know/do about the conditions of valproate prescription in female, girls and adolescents patients?

- Valproate must be initiated and supervised by a specialist experienced in the management of epilepsy or bipolar disorder.
{to be adapted depending on healthcare system}
- It should not be used in female children/adolescents and WCBP unless other treatments are ineffective or not tolerated.
- It should be prescribed and dispensed according to the conditions of the valproate Pregnancy Prevention Program.



Overview of the Pregnancy Prevention Program Conditions (for details read the Summary of Product Characteristics)

- Assess patients for pregnancy potential,
- Explain the risks of congenital malformations and neurodevelopmental disorders,
- Perform a pregnancy test prior to initiation and during treatment, as needed,
- Counsel on the need for effective contraception throughout the treatment,
- Explain the need for pregnancy planning,
- Explain the need to urgently consult the physician in case of pregnancy,
- Review regularly (at least annually) the treatment by the specialist,
- Provide the Patient Guide,
- Complete the Annual Risk Acknowledgement Form with the patient at initiation and at annual review.

These conditions also concern women who are not currently sexually active unless the prescriber considers that there are compelling reasons to indicate that there is no risk of pregnancy.

2 What is your role?

What you must do if you are managing a girl/adolescent treated with valproate

- Explain to her or her parents/caregivers (depending on age) the risks of congenital malformations and neurodevelopmental disorders
- Explain to her or her parents/caregivers the importance of contacting the specialist once she experiences menarche
- Reassess the need for valproate therapy at least annually and consider alternative treatment options as soon as she experienced menarche
- Make efforts to switch her to alternative treatment before she reaches adulthood.

Specialist - Epilepsy

General Practitioner
- Epilepsy

Specialist - Bipolar

General Practitioner
- Bipolar

Gynecologist/Obstetrician/
Nurse/Midwife

Pharmacist

SPECIALISTS prescribing valproate to girls and women of childbearing potential suffering from EPILEPSY

FOR ALL PATIENTS: complete **<and sign>** the **Annual Risk Acknowledgement Form** (in 2 copies) at initiation and annually; provide and discuss the **patient guide**

INITIAL valproate prescription

RENEWAL of valproate

Only if:

- other treatments are ineffective or not tolerated
- pregnancy test is negative (for WCBP)

NOT PLANNING
a pregnancy

Reassess treatment
at least annually

▶ Explain/remind and ensure patient's understanding of

- I. The risks of congenital malformations and neurodevelopmental disorders for children exposed in utero
- II. The mandatory use of **effective contraception** (preferably an intra-uterine device, or implant, or 2 complementary forms including a barrier method)
 - even if patient has amenorrhea
 - without interruption during the entire valproate treatment duration
 - regardless of sexual activity status
 - refer for contraception services as needed
- III. The need to:
 - undergo pregnancy testing when required during treatment
 - **plan** for pregnancy
 - **reassess** epilepsy treatment with you **annually**

▶ **Complete <and sign> the Annual Risk Acknowledgement Form at initiation and at each annual visit**
Provide the Patient Guide

▶ Specifically for girls

- I. Explain the risks of congenital malformations and neurodevelopmental disorders to the parents/caregivers (and children depending on their age)
- II. Explain to the parents/caregivers (and children depending on their age) the importance of contacting the specialist once a female child using valproate experiences menarche
- III. Assess the most appropriate time to give advice on contraception
- IV. Reassess the need for valproate therapy at least annually
- V. Make efforts to switch the female children to alternative treatment before they reach adulthood

⚠ Explain that if she thinks she is pregnant or becomes pregnant, **she should not stop valproate and contact you immediately.**

prescription in women

PLANNING
pregnancy

UNPLANNED
pregnancy

In epilepsy, valproate is contraindicated during pregnancy unless there is no suitable alternative

Explain that contraception should only be stopped after complete valproate cessation

The patient should not stop valproate and consult you urgently

- ▶
- I. Inform the patient and her partner about the risks
 - to the unborn child exposed to valproate in utero
 - of untreated seizures during pregnancy
 - II. Explain the need to switch to alternative treatment if suitable, and that it takes time:
 - the new medication is gradually introduced as add-on to valproate - up to 6 weeks to reach effective dose
 - then gradually withdraw valproate over weeks and months - commonly 2-3 months
 - III. If a seizure occurs during valproate withdrawal, maintain the minimum required dose

▶ **Complete <and sign> the Annual Risk Acknowledgement Form at initiation and at each annual visit**
Provide the Patient Guide

⚠ **If, in exceptional circumstances, a pregnant woman must receive valproate for epilepsy**

Valproate should preferably be prescribed:

- as monotherapy
- at the lowest effective dose, with daily dose divided into several small doses
- as a prolonged release formulation



Refer your patient and her partner to:

- a gynecologist/obstetrician/midwife
- a specialist experienced in <teratology> {to be adapted depending on healthcare system} to start appropriate pregnancy monitoring (including prenatal monitoring to detect the possible occurrence of neural tube defects or other malformations)

GENERAL PRACTITIONERS managing girls and women of childbearing potential who are suffering from **EPILEPSY** and are taking **valproate**

.....
If she is...

NOT PLANNING
a pregnancy

At each visit...

▶ **Explain/remind and ensure patient's understanding of**

- I. The risks of congenital malformations and neurodevelopmental disorders for children exposed in utero**
- II. The mandatory use of effective contraception** (preferably an intra-uterine device, or implant, or 2 complementary forms including a barrier method)
 - even if patient has amenorrhea
 - without interruption during the entire valproate treatment duration
 - regardless of sexual activity status
- III. The need to:**
 - undergo pregnancy testing when required during treatment
 - **plan** for pregnancy
 - **reassess** epilepsy treatment with her **specialist annually**

▶ **Provide the Patient Guide**

▶ **Specifically for girls**

- I. Explain the risks of congenital malformations and neurodevelopmental disorders to the parents/caregivers (and children depending on their age)**
- II. Explain to the parents/caregivers (and children depending on their age) the importance of contacting the specialist once a female child using valproate experiences menarche to consider alternative treatment**
- III. Assess the most appropriate time to give advice on contraception**

⚠ Explain that if she thinks she is pregnant or becomes pregnant, **she should not stop valproate and contact her specialist immediately.**

FOR ALL PATIENTS: provide and discuss the **patient guide**

If she is...

PLANNING
pregnancy

If she has...

UNPLANNED
pregnancy

In epilepsy, valproate is contraindicated during pregnancy unless there is no suitable alternative

Explain that contraception should only be stopped after complete valproate cessation

The patient should not stop valproate and urgently consult her specialist

- ▶ **I. Inform the patient and her partner about the risks**
- to the unborn child exposed to valproate in utero
 - of untreated seizures during pregnancy
- ▶ **II. Refer promptly the patient to her specialist** for switching to alternative treatment if suitable
- ▶ **III. Tell your patient to continue valproate until the date of the appointment with her specialist**

▶ **Provide the Patient Guide**

Refer your patient and her partner to:

- a gynecologist/obstetrician/midwife
- specialist in <teratology> <{to be adapted depending on healthcare system}> for evaluation and further counselling

SPECIALISTS prescribing valproate to women of childbearing potential suffering from BIPOLAR DISORDER

INITIAL valproate prescription

RENEWAL of valproate

NOT PLANNING a pregnancy

- Only if:
- other treatments are ineffective or not tolerated
 - pregnancy test is negative

Reassess treatment at least annually

▶ Explain/remind and ensure patient's understanding of

- The risks of congenital malformations and neurodevelopmental disorders for children exposed in utero**
- The mandatory use of **effective contraception** (preferably an intra-uterine device, or implant, or 2 complementary forms including a barrier method)
 - even if patient has amenorrhea
 - without interruption during the entire valproate treatment duration
 - regardless of sexual activity status
 - refer for contraception services as needed
- The need to:**
 - undergo pregnancy testing when required during treatment
 - **plan** for pregnancy
 - **reassess** bipolar treatment with you **annually**

▶ Complete **<and sign>** the Annual Risk Acknowledgement Form at initiation and at each annual visit
Provide the Patient Guide

⚠ Explain that if she thinks she is pregnant or becomes pregnant, **she should not stop valproate and contact you immediately.**

FOR ALL PATIENTS: complete **<and sign>** the **Annual Risk Acknowledgement Form** (in 2 copies) at initiation and annually; provide and discuss the **patient guide**

prescription in women

PLANNING pregnancy

UNPLANNED pregnancy

In bipolar disorder, valproate is contraindicated during pregnancy

Switch to alternative treatment prior to conception

The patient should not stop valproate and consult you urgently

▶ Inform the patient and her partner about the risks

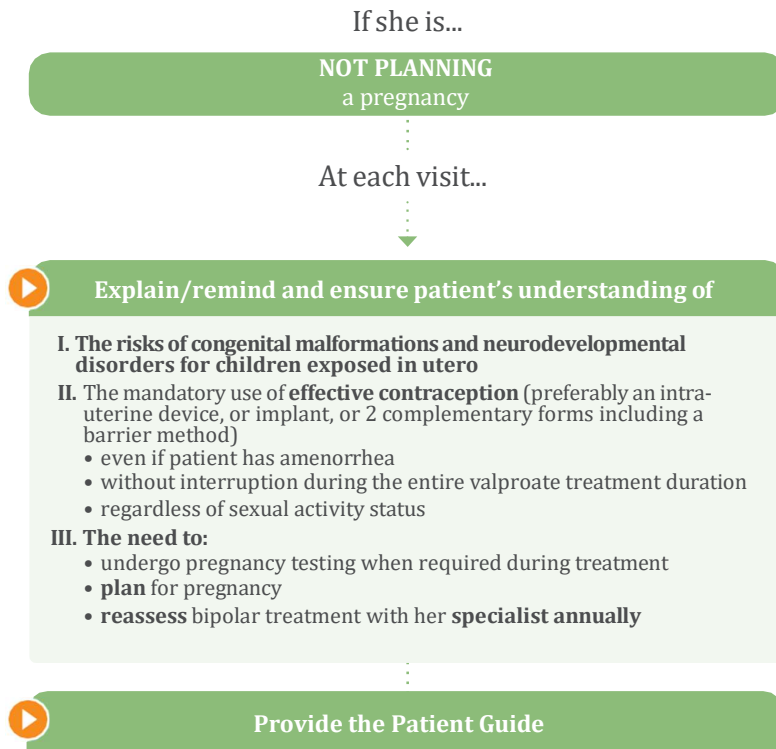
- to the unborn child exposed to valproate in utero
- of untreated bipolar disorder during pregnancy

- Explain that **contraception** should only be stopped after complete valproate cessation
- Valproate should be discontinued gradually over few weeks to reduce early recurrence¹

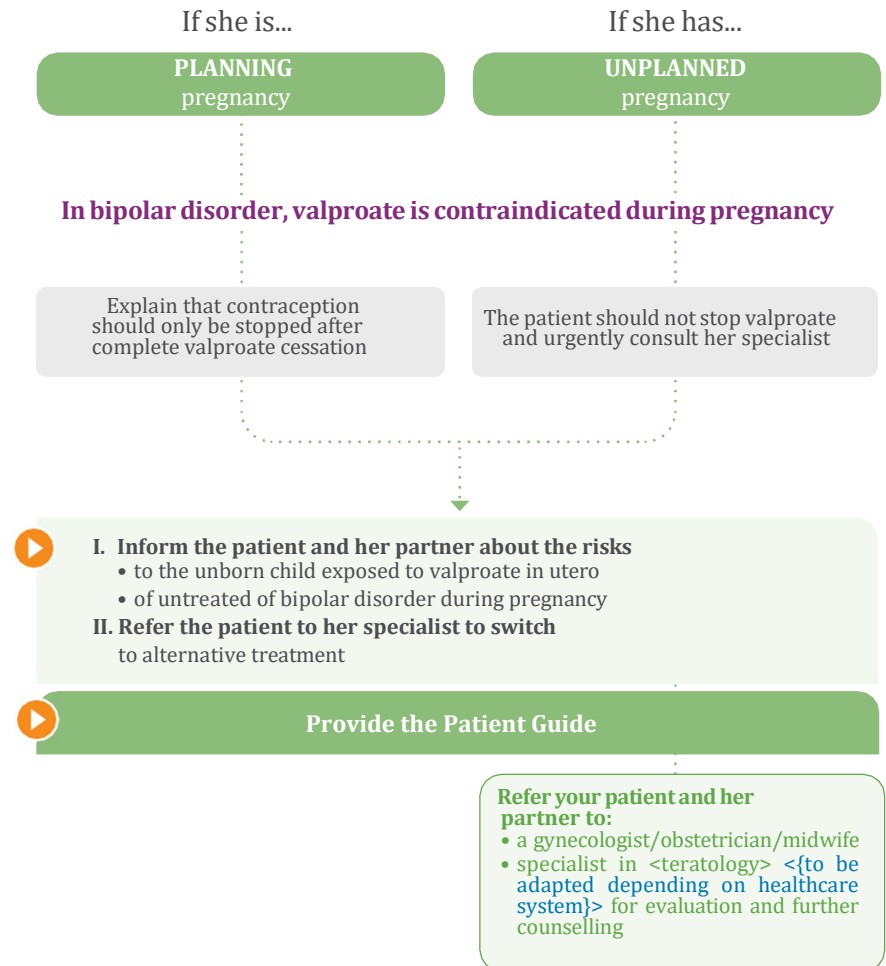
- Discontinue valproate - Switch to alternative treatment: **a fast cross tapering while installing the alternative treatment is recommended²**
- Refer your patient and her partner to:**
- a gynecologist/obstetrician/midwife
 - a specialist experienced in **<teratology>** {to be adapted depending on healthcare system} to start appropriate pregnancy monitoring (including prenatal monitoring to detect the possible occurrence of neural tube defects or other malformations)

▶ Complete **<and sign>** the Annual Risk Acknowledgement Form at initiation and at each annual visit
Provide the Patient Guide

GENERAL PRACTITIONERS managing women of childbearing potential who are suffering from **BIPOLAR DISORDER** and are taking **valproate**



FOR ALL PATIENTS: provide and discuss the **patient guide**



⚠ Explain that if she thinks she is pregnant or becomes pregnant, **she should not stop valproate and contact her specialist immediately.**

What is your role?
Gynecologist/
Obstetrician/Nurse/
Midwife

GYNECOLOGISTS, OBSTETRICIANS, MIDWIVES, NURSES managing girls and women of childbearing potential taking **valproate**

.....

GIRLS and NON-PREGNANT WOMEN
taking **valproate**

▶ Explain/remind and ensure patient's understanding of

- I. **The risks of congenital malformations and neurodevelopmental disorders for children exposed in utero**
- II. The mandatory use of **effective contraception** (preferably an intra-uterine device, or implant, or 2 complementary forms including a barrier method)
 - even if patient has amenorrhea
 - without interruption during the entire valproate treatment duration
 - regardless of sexual activity status
- III. **The need to:**
 - undergo pregnancy testing when required during treatment
 - **plan** for pregnancy
 - reassess the treatment with her **specialist annually**

▶ Provide the Patient Guide

⚠ Explain that if she thinks she is pregnant or becomes pregnant, **she should not stop valproate and contact her specialist immediately.**

FOR ALL PATIENTS: provide and discuss the patient guide

In epilepsy, valproate is contraindicated during pregnancy unless there is no suitable alternative.

In bipolar disorder, valproate is contraindicated during pregnancy.

When a woman consults for an **EXPOSED PREGNANCY:**
REFER HER TO 2 SPECIALISTS

▶ Specialist n°1

One specialist of the disease for which valproate is prescribed for evaluation and counselling on switch and discontinuation if suitable for her

▶ Specialist n°2

One specialist in **<teratology>** {to be adapted depending on healthcare system} to start appropriate pregnancy monitoring (including prenatal monitoring to detect the possible occurrence of neural tube defects or other malformations) for evaluation and counselling

▶ Provide the Patient Guide

PHARMACISTS counselling girls and women of childbearing potential taking **valproate**

▶ Explain/remind and ensure patient's understanding of

- I. **The risks of congenital malformations and neurodevelopmental disorders for children exposed in utero**
- II. The mandatory use of **effective contraception** (preferably an intra-uterine device, or implant, or 2 complementary forms including a barrier method)
 - even if patient has amenorrhea
 - without interruption during the entire valproate treatment duration
 - regardless of sexual activity status
- III. **The need to:**
 - undergo pregnancy testing when required during treatment
 - **plan** for pregnancy
 - reassess the treatment with her **specialist annually**

FOR ALL PATIENTS: provide the patient card

In epilepsy, valproate is contraindicated during pregnancy unless there is no suitable alternative.

In bipolar disorder, valproate is contraindicated during pregnancy.

▶ About educational materials

PATIENT CARD

- Ensure it is provided to patients
- Discuss it every time valproate is dispensed
- Advise the patient to keep it anytime

PATIENT GUIDE

- Ensure the patient received it

ONLINE INFORMATION

- Remind that online information can also be found by scanning the **QR code** (<on the leaflet / on the box>)

{paragraph only for countries where valproate may be unpacked}

- Dispense valproate in the original package with an outer warning
- Unpacking should be avoided. If it cannot be avoided, always provide a copy of the package leaflet, patient card and the outer box if available



Explain that if she thinks she is pregnant or becomes pregnant, **she should not stop valproate and contact her specialist immediately.**

3

What are the valproate risks if taken during pregnancy?

Valproate use during pregnancy is harmful for the unborn child. Children exposed in utero to valproate have a high risk for:

- Congenital malformations,
- Neurodevelopmental disorders.

The risks are dose-related. There is no threshold dose below which no risk exists. Any dose of valproate during pregnancy can be harmful for the unborn child. The nature of the risks for children exposed to valproate during pregnancy is the same irrespective of the indication for which valproate has been prescribed.

Both valproate monotherapy and valproate polytherapy including other antiepileptics, are frequently associated with abnormal pregnancy outcomes.

In utero exposure to valproate may also result in:

- Unilateral or bilateral hearing impairment or deafness, that may not be reversible ⁴,
- Eye malformations (including colobomas, microphthalmos) that have been reported in conjunction with other congenital malformations. These eye malformations may affect vision.

Available evidence does not show that folate supplementation prevents birth defects due to valproate exposure⁵.

1. Congenital malformations

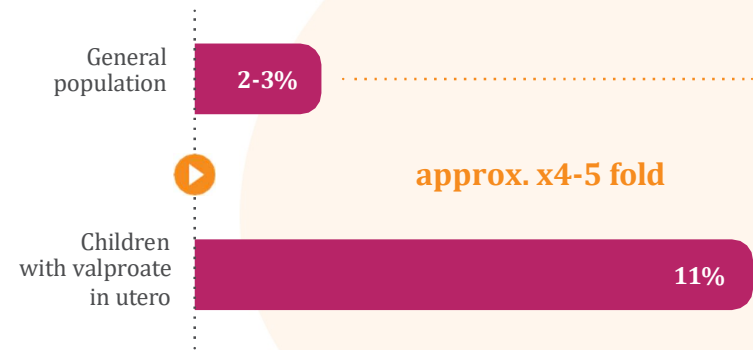
About 11%³ of children of epileptic women exposed to valproate monotherapy during pregnancy had major congenital malformations.

This risk is greater than in the general population (about 2-3%).

Available data show an increased incidence of minor or major malformations. The most common types of malformations included:

- Neural tube defects
- Facial dysmorphism
- Cleft lip and palate
- Craniostenosis
- Cardiac, renal and urogenital defects
- Limb defects (including bilateral aplasia of the radius)
- Multiple anomalies involving various body systems.

Risk of congenital malformations



3

What are the valproate risks if taken during pregnancy?

2. Neurodevelopmental disorders

- ▶ Exposure to valproate in utero can have adverse effects on mental and physical development of the exposed children.
- ▶ The exact gestational period of risk is uncertain **and the possibility of a risk throughout the entire pregnancy cannot be excluded.**
- ▶ Up to 30 or 40% of preschool children exposed in utero may experience delays in their early development such as:⁶⁻⁹
 - Talking and walking later
 - Lower intellectual abilities
 - Poor language skills (speaking and understanding)
 - Memory problems
- ▶ In school aged children (age 6) with a history of valproate exposure in utero, intelligence quotient measured was on average 7-10 points lower than in children exposed to other antiepileptics¹⁰.
There are limited data on the long-term outcomes.
- ▶ An increased risk in children with a history of valproate exposure in utero compared to the unexposed population:
 - Attention deficit/hyperactivity disorder¹¹: approximately 1.5-fold,
 - Autistic spectrum disorder¹²: approximately 3-fold,
 - Childhood autism¹²: approximately 5-fold.

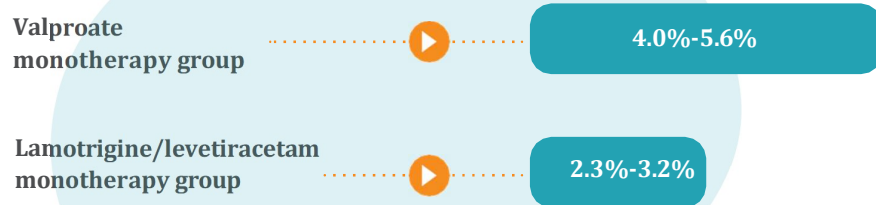
Risks increased in children exposed to valproate in utero



1 What you must know about the risk to children of fathers treated with valproate in the 3 months prior to conception

A retrospective observational study in 3 European Nordic countries suggests an increased risk of neuro-developmental disorders (NDDs) in children (from 0 to 11 years old) born to men treated with valproate as monotherapy in the 3 months prior to conception compared to those born to men treated with lamotrigine or levetiracetam as monotherapy.

Comparison of adjusted cumulative risk of NDDs in children born to men treated with valproate in the 3 months prior to conception vs children born to men treated with lamotrigine or levetiracetam



The pooled adjusted hazard ratio for NDDs overall obtained from the meta-analysis of the datasets was 1.50 (95% Confidence Interval: 1.09, 2.07).

The study was not large enough to investigate associations with the specific NDD subtypes studied (composite endpoint included autism spectrum disorder, intellectual disability, communication disorder, attention deficit/hyperactivity disorder, movement disorders). Due to study limitations, including potential confounding by indication and differences in follow-up time between exposure groups, the causal role of valproate is possible but not considered to be confirmed.

The study did not evaluate the risk of NDDs in children born to men who had discontinued valproate for more than 3 months prior to conception (i.e., allowing a new spermatogenesis without valproate exposure).

The observed potential risk of NDDs after paternal exposure in the 3 months before conception is of lower magnitude than the known risk for NDDs after maternal exposure during pregnancy.

2 What is your role, when managing, treating or taking care of male patients with Epilepsy or Bipolar Disorder

- It is recommended that valproate is initiated and supervised by a specialist experienced in the management of epilepsy or bipolar disorder <or migraine>. {to be adapted depending on healthcare system}

SPECIALIST and GENERAL PRACTITIONER

▶ Explain/remind and ensure patient's knowledge of

- I. The potential risk of neurodevelopmental disorders for children born to men treated with valproate in the 3 months prior to conception.
- II. The study did not evaluate the risk of NDDs in children born to men who had discontinued valproate for more than 3 months prior to conception.
- III. As a precautionary measure, discuss with the patient regularly **the need**:
 - To consider **effective contraception**, including for a female partner, while using valproate and for 3 months after stopping the treatment
 - To consult a specialist to **discuss treatment alternatives**, when they are planning to conceive a child and before discontinuation of contraception.
- IV. Male patients **should not donate sperm** during treatment and for at least 3 months after treatment discontinuation.

Male patients treated with valproate should be regularly reviewed by their prescriber to evaluate whether valproate remains the most suitable treatment for the patient.

For male patients planning to conceive a child, suitable treatment alternatives should be considered and discussed with the male patients. Individual circumstances should be evaluated in each case.

It is recommended that advice from a specialist experienced in the management of <epilepsy> <bipolar> <migraine> should be sought as appropriate.

▶ Provide the Patient Guide

PHARMACIST

- Ensure the patient received the Patient Guide and Patient Card
- {Subject to national implementation} <Remind that online information can also be found by scanning the QR code (on the leaflet / on the box)>

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BD: Bipolar Disorder;
HCP: Health Care Professional;
NDD: Neurodevelopmental Disorders;
WCBP: Women of Childbearing Potential

NOTES

NOTES

