PATIENT & CAREGIVER EDUCATION

Estradiol (Systemic

This information from UpToDate® Lexidrug™ explains what you need to know about this medication, including what it's used for, how to take it, its side effects, and when to call your healthcare provider.

Brand Names: US

Alora; Climara; Delestrogen; Depo-Estradiol; Divigel; Dotti; Elestrin; Estrace [DSC]; Estrogel; Evamist; Femring; Lyllana; Menostar; Minivelle; Vivelle-Dot

Brand Names: Canada

Climara 25; Climara 50; Climara 75; Divigel; Estradot 100; Estradot 25; Estradot 37.5; Estradot 50; Estradot 75; Estrogel; Lupin-Estradiol; Oesclim [DSC]; PMS-Estradiol; SANDOZ Estradiol Derm 100; SANDOZ Estradiol Derm 50; SANDOZ Estradiol Derm 75

Warning

- The risk of endometrial cancer may be raised with the use of estrogen alone in people who have a uterus. Use of a progestogen along with estrogen may lower the risk. Call the doctor right away if your child has unusual vaginal bleeding. If your child has a uterus, talk with the doctor about giving a progestogen.

What is this drug used for?

Tablets, injection, and patch:

- It is used to add estrogen to the body when the ovaries have been taken out or do not work the right way.
- It may be given to your child for other reasons. Talk with the doctor.

Gel, spray, and vaginal ring:

- If your child has been given this form of this drug, talk with the doctor for information about the benefits and risks. Talk with the doctor if you have questions or concerns about giving this drug to your child.

What do I need to tell the doctor BEFORE my child takes this drug?

- If your child is allergic to this drug; any part of this drug; or any other drugs, foods, or substances. Tell the doctor about the allergy and what signs your child had.
- If your child has had any of these health problems: Bleeding disorder, blood clots, a higher risk of having a blood clot, breast cancer, liver problems or liver tumor, heart attack, stroke, tumor where estrogen makes it grow, or vaginal bleeding where the cause is not known.

If your child is pregnant:

- Do not give this drug to your child during pregnancy.

This is not a list of all drugs or health problems that interact with this drug.

Tell the doctor and pharmacist about all of your child's drugs (prescription or OTC, natural products, vitamins) and health problems. You must check to make sure that it is safe to give this drug with all of your child's other drugs and health problems. Do not start, stop, or change the dose of any drug your child takes without checking with the doctor.

What are some things I need to know or do while my child takes this drug?

- Tell all of your child's health care providers that your child is taking this drug. This includes your child's doctors, nurses, pharmacists, and dentists. This drug may need to be stopped before certain types of surgery as the doctor has told you. If this drug is stopped, the doctor will tell you when to start giving this drug again after your child's surgery or procedure.
- Do not use estrogen alone or with a progestin to prevent heart disease, heart attack, stroke, or dementia. A study of women taking a certain estrogen alone or with a progestin showed a raised chance of heart attack, stroke, blood clots, breast cancer, or dementia. Not all estrogen or progestin products and doses were studied. It is not known if the same effects may happen with this drug.
- Talk with the doctor if your child will need to be still for long periods of time like long trips, bedrest after surgery, or illness. Not moving for long periods may raise the chance of blood clots.
- If your child is allergic to tartrazine (FD&C Yellow No. 5), talk with your child's doctor. Some products have tartrazine.

- If your child has high blood sugar (diabetes), you will need to watch your child's blood sugar closely.
- High blood pressure has happened with drugs like this one. Have your child's blood pressure checked as you have been told by the doctor.
- Have your child's blood work and bone density checked as you have been told by the doctor.
- Be sure your child has regular breast exams and gynecology check-ups. Your child will also need to do breast self-exams as the doctor has told you.
- High triglyceride levels have happened with this drug. Tell your child's doctor if your child has ever had high triglyceride levels.
- This drug may cause dark patches of skin on your child's face. Avoid lots of sun, sunlamps, and tanning beds. Use sunscreen and dress your child in clothing and eyewear that protects from the sun.
- This drug may affect certain lab tests. Tell all of your child's health care providers and lab workers that your child takes this drug.
- Use care if your child has risks for heart disease. Some of these risks include high blood pressure, high cholesterol, high blood sugar or diabetes, being overweight, or tobacco use. Talk with the doctor about your child's risks

for heart disease.

- If your child drinks grapefruit juice or eats grapefruit often, talk with your child's doctor.
- This drug may affect growth in children and teens in some cases. They may need regular growth checks. Talk with the doctor.

If your child is breast-feeding a baby:

- Tell the doctor if your child is breast-feeding a baby. You will need to talk about any risks to the baby.

What are some side effects that I need to call my child's doctor about right away?

WARNING/CAUTION: Even though it may be rare, some people may have very bad and sometimes deadly side effects when taking a drug. Tell your child's doctor or get medical help right away if your child has any of the following signs or symptoms that may be related to a very bad side effect:

- Signs of an allergic reaction, like rash; hives; itching; red, swollen, blistered, or peeling skin with or without fever; wheezing; tightness in the chest or throat; trouble breathing, swallowing, or talking; unusual hoarseness; or swelling of the mouth, face, lips, tongue, or throat.
- Signs of liver problems like dark urine, tiredness,

decreased appetite, upset stomach or stomach pain, light-colored stools, throwing up, or yellow skin or eyes.

- Signs of gallbladder problems like pain in the upper right belly area, right shoulder area, or between the shoulder blades; yellow skin or eyes; fever with chills; bloating; or very upset stomach or throwing up.
- Signs of a pancreas problem (pancreatitis) like very bad stomach pain, very bad back pain, or very bad upset stomach or throwing up.
- Signs of high blood pressure like very bad headache or dizziness, passing out, or change in eyesight.
- Signs of high or low calcium levels like bone pain, confusion, constipation, feeling tired, headache, muscle cramps or spasms, numbness or tingling, seizures, upset stomach and throwing up, or weakness.
- Weakness on 1 side of the body, trouble speaking or thinking, change in balance, drooping on one side of the face, or blurred eyesight.
- Eyesight changes or loss, bulging eyes, or change in how contact lenses feel.
- A lump in the breast, breast pain or soreness, or nipple discharge.
- Vaginal itching or discharge.

- Vaginal bleeding that is not normal.
- Depression or other mood changes.
- Memory problems or loss.
- Fever.
- Not able to pass urine or change in how much urine is passed.
- Pain when passing urine.
- This drug may cause your child to swell or keep fluid in the body. Tell your child's doctor if swelling, weight gain, or trouble breathing happens after this drug is given.
- Call the doctor right away if your child has signs of a blood clot like chest pain or pressure; coughing up blood; shortness of breath; swelling, warmth, numbness, change of color, or pain in a leg or arm; or trouble speaking or swallowing.

What are some other side effects of this drug?

All drugs may cause side effects. However, many people have no side effects or only have minor side effects. Call your child's doctor or get medical help if any of these side effects or any other side effects bother your child or do not go away:

All products:

- Dizziness or headache.
- Hair loss.
- Upset stomach or throwing up.
- Constipation.
- Stomach pain or cramps.
- Bloating.
- Gas.
- Enlarged breasts.
- Tender breasts.
- Vaginal bleeding or spotting.
- Signs of a common cold.
- Nose or throat irritation.
- Weight gain or loss.
- Joint pain.
- Leg cramps.
- Change in sex interest.

If your child has menstrual periods:

- Painful periods.

Injection and patch:

- Irritation where this drug was used.

These are not all of the side effects that may occur. If you have questions about side effects, call your child's doctor. Call your child's doctor for medical advice about side effects.

You may report side effects to your national health agency.

How is this drug best given?

Give this drug as ordered by your child's doctor. Read all information given to you. Follow all instructions closely.

Injection:

- It is given as a shot into a muscle.
- If you will be giving your child the shot, your child's doctor or nurse will teach you how to give the shot.
- Do not use if the solution is cloudy, leaking, or has particles.
- This drug is colorless to a faint yellow. Do not use if the solution changes color.
- Throw away needles in a needle/sharp disposal box. Do not reuse needles or other items. When the box is full, follow all local rules for getting rid of it. Talk with a

doctor or pharmacist if you have any questions.

Tablets:

- Give this drug at the same time of day.
- There may be days when your child will not take this drug.
- Give this drug with or without food. Give with food if it causes an upset stomach.

Skin patch:

- Do not give by mouth. Use on your child's skin only. Keep out of your child's mouth, nose, and eyes (may burn).
- Give this drug at the same time of day.
- Wash your hands before and after use.
- Put patch on clean, dry, healthy skin on the lower belly or upper buttocks. Move the site with each new patch.
- Do not put a patch on the same site for at least 7 days.
- Do not use on skin that has any problems.
- Do not put on the breast.
- Do not put on skin where you have just used creams, oils, lotions, powder, or other skin products. The patch may not stick as well.

- Put patch on a site without hair.
- Do not put the patch on the waistline.
- Do not put the patch on a site where sitting will make it come off.
- Do not cut or divide patches. Do not use patches that are damaged.
- If the patch falls off, put it back on. If you cannot put the patch back on, put on a new one in a different area.
- Do not put on more than 1 patch at a time.
- After you take off a skin patch, be sure to fold the sticky sides of the patch to each other. Throw away used patches where children and pets cannot get to them.

What do I do if my child misses a dose?

Injection:

- Call your child's doctor to find out what to do.

Tablets:

- Give a missed dose as soon as you think about it.
- If it is close to the time for your child's next dose, skip the missed dose and go back to your child's normal time.
- Do not give 2 doses at the same time or extra doses.

Skin patch:

- Put on a missed patch as soon as you think about it after taking off the old one.

How do I store and/or throw out this drug?

Injection:

- If you need to store this drug at home, talk with your child's doctor, nurse, or pharmacist about how to store it.

All other products:

- Store at room temperature in a dry place. Do not store in a bathroom.

Skin patch:

- Store in protective pouch until ready for use.

All products:

- Keep all drugs in a safe place. Keep all drugs out of the reach of children and pets.
- Throw away unused or expired drugs. Do not flush down a toilet or pour down a drain unless you are told to do so. Check with your pharmacist if you have questions about the best way to throw out drugs. There may be drug take-back programs in your area.

General drug facts

- If your child's symptoms or health problems do not get better or if they become worse, call your child's doctor.
- Do not share your child's drug with others and do not give anyone else's drug to your child.
- Some drugs may have another patient information leaflet. If you have any questions about this drug, please talk with your child's doctor, nurse, pharmacist, or other health care provider.
- If you think there has been an overdose, call your poison control center or get medical care right away. Be ready to tell or show what was taken, how much, and when it happened.

Consumer Information Use and Disclaimer

This generalized information is a limited summary of diagnosis, treatment, and/or medication information. It is not meant to be comprehensive and should be used as a tool to help the user understand and/or assess potential diagnostic and treatment options. It does NOT include all information about conditions, treatments, medications, side effects, or risks that may apply to a specific patient. It is not intended to be medical advice or a substitute for the medical advice, diagnosis, or treatment of a health care provider based on the health care provider's examination

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If you have questions or concerns, contact your healthcare provider. A member of your care team will answer Monday through Friday from 9 a.m. to 5 p.m. Outside those hours, you can leave a message or talk with another MSK provider. There is always a doctor or nurse on call. If you're not sure how to reach your healthcare provider, call 212-639-2000.

For more resources, visit www.mskcc.org/pe to search our virtual library.

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