

# What can you do?

- ◆ Buy over-the-counter medicines only as needed
- ◆ Avoid stockpiling medicine that cannot be used before expiry
- ◆ Never take antibiotics without medical advice
- ◆ Never stop your antibiotic therapy without medical recommendation
- ◆ Never dispose your unused or expired drugs in the toilet or sink
- ◆ Ask the pharmacist for the recommended local method for disposing pharmaceuticals and packaging
- ◆ Maintain a healthy lifestyle and use preventive measures and non-medical therapies, where possible

**Coalition Clean Baltic** is cooperation of environmental non-governmental organizations from the countries of the Baltic Sea Region. The main goal of CCB is to promote the protection and improvement of the environment and natural resources of the Baltic Sea Area

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**The Estonian Green Movement** is a non-profit organisation for environmental protection the aim of which is to improve the environmental situation in Estonia and to guide our society to sustainable, green thinking

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## Pharmaceuticals in the Baltic Sea

Estonia

Find out more:  
[www.ccb.se/pillsfreebaltic](http://www.ccb.se/pillsfreebaltic)



Swedish Agency  
for  
Marine and  
Water Management



Eesti  
Roheline  
Liikumine

Pharmaceuticals group	Environmental hazard	Impact on the environment
Hormones	Toxicity, persistence, bioaccumulation	Cause reproductive problems for amphibians and fishes
Anti-Infectives for systemic use	Toxicity, persistence	Antimicrobial resistance (AMR)
Antiinflammatory and antirheumatic products	Persistence	Cause disruption of the internal organs

### Recommended method for disposing of pharmaceutical waste

- ◆ Remove old or unused medicines (tablets, capsules, liquid medicines, creams, salves and aerosols) in their original packaging to hazardous waste collection points or any pharmacy
- ◆ Syringes and needles should be packed safely and separately from other waste and brought them to the hazardous waste collection point
- ◆ Please consider that pharmacies won't accept food supplements, syringes, needles and other waste which aren't considered as medicines

**Take care your environment and humans — bring unwanted pharmaceuticals to hazardous waste collection point or pharmacy**

Hazardous waste collection points:  
[www.kuhuviaa.ee](http://www.kuhuviaa.ee)  
 Pharmacies in Estonia:  
[www.apteegiinfo.ee/home](http://www.apteegiinfo.ee/home)

## HUMAN & PET ANIMALS



The most common medicines in Estonia are highly persistence<sup>1</sup> (ability to resist degradation in the aquatic environment). Between 30-90% of an oral dose can be excreted as an active substance in urine



## PHARMACEUTICAL PRODUCTION

Current wastewater treatment plants are unable to completely destroy or remove pharmaceuticals

## ANIMAL HUSBANDRY



Tetracycline, penicillin, sulfonamide, makrolide are used in the biggest quantities in veterinary

## MANURE

39 different active substances for veterinary pharmaceuticals could be found in manure



## WASTE

In Estonia, all pharmaceuticals are classified as hazardous waste and should therefore be collected separately

## WASTEWATER TREATMENT PLANT

Ibuprofen and diclofenac were found in the river water in Estonia<sup>2</sup>

## SEWAGE SLUDGE



## GROUND WATER

Up to 25 different pharmaceuticals and their metabolites have been detected in drinking water around the world

Up to 35 different pharmaceuticals have been detected in biota samples in the Baltic Sea

## AQUAFARMING



<sup>1</sup> samee/2017-aasta-iii-kvartali-ravimistatistika

<sup>2</sup> umweltbundesamt.de/en/database-pharmaceuticals-in-the-environment-0