

# Prostaglandin E1

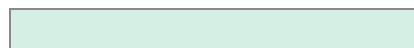
nh

## Under construction / Forgotten

**This article was marked by its author as *Under construction*, but the last edit is older than 30 days.** If you want to edit this page, please try to contact its author first (you will find him in the history ([https://www.wikilectures.eu/index.php?title=Prostaglandin\\_E1&action=history](https://www.wikilectures.eu/index.php?title=Prostaglandin_E1&action=history))). Watch the *as well*. If the author will not continue in work, remove the template `{{Under construction}}` and the page.

Last update: Monday, 26 Dec 2022 at 3.31 pm.

This is a prostaglandin (PG), which is normally produced by human cells from dihomo- $\gamma$ -linolenic acid (DGLA). DGLA is one of the  $\omega - 6$  fatty acids. Like any other prostaglandin, it is released as a paracrine-acting hormone with a short half-life.



## Pharmacokinetics

Prostaglandin E1 (=PGE1) has a very short half life of around 10 seconds. 60-90% of it is metabolized in the lungs by the first pass effect.

## Effects of PGE1

PGE1 generally causes **vasodilation** in the systemic and pulmonary circulation (at the level of arterioles and precapillary sphincters, or muscular arteries), it relaxes the smooth muscle of the corpus cavernosum, but stimulates (contractions) the uterus and small intestinal muscles.

## Indications

PGE1 maintains **the dilation of patent ductus arteriosus** in newborns. This condition is undesirable because it leads to an increase in right ventricular pressure and pulmonary hypertension. However, in congenital heart defects that depend on the patent ductus arteriosus (otherwise the newborn will not survive), it is desirable to be kept open for the heart. These are the following heart defects:

- Cyanotic defects: transposition of large vessels, atresia of the tricuspid valve and stenosis of the tricuspid valve
- Acyanotic defects: hypoplastic left heart, aortic coarctation, aortic stenosis and broken aortic arch

The synthetic variant **alprostadil** is used for its vasodilatory effects in the following indications:

- **Erectile dysfunction** - injection of alprostadil directly into the corpora cavernosa penis, alternatively also transurethrally
- **Critical limb ischemia** - the vasodilatory effect of alprostadil is used to increase blood flow through peripheral vasodilation.

Another synthetic analogue, **Misoprostol**, can be used in the treatment of peptic ulcer, silent miscarriage and to induce labor or abortion.

## Route of administration

Continuous intravenous infusion. See above for specific routes of administration.

## Links

### Related articles

- Eicosanoid
- Prostaglandin

- Congenital heart defects
- Prostaglandin E2

## References

- 
- 

Template:Navbox - hormony

Kategorie:Farmakologie Kategorie:Biochemie Kategorie:Fyziologie Kategorie:Endokrinologie Kategorie:Základní a speciální esenciální léčiva dle WHO