



L'era delle terapie long acting

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DEFINITION

It is important to first define what is meant by “long-acting drug”

The concept of long-acting is a relative one, based on the frequency of dosi treatments available for the same disease

For example:

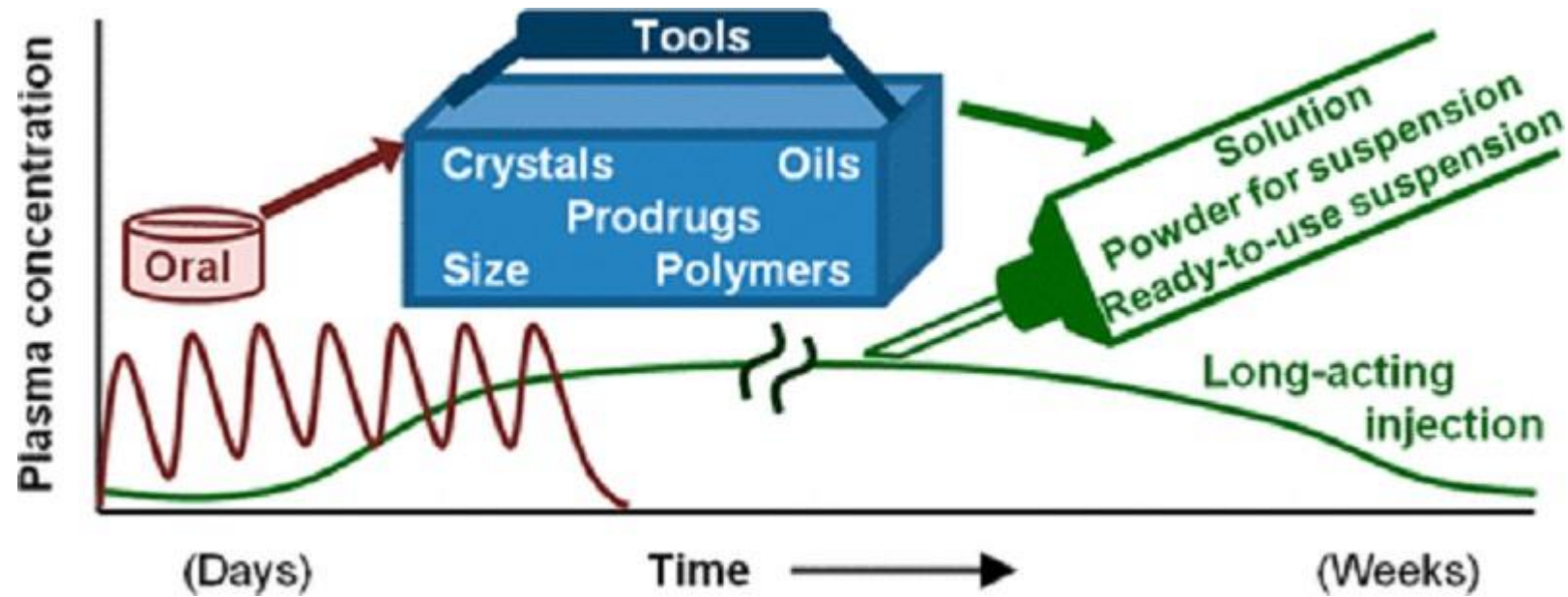
Intramuscular penicillin G has an half-life in plasma of 30 min

Intramuscular procaine penicillin G has an half-life in plasma of 3.4 hours,

Intramuscular benzathine penicillin G has an half-life in plasma of 672 hour



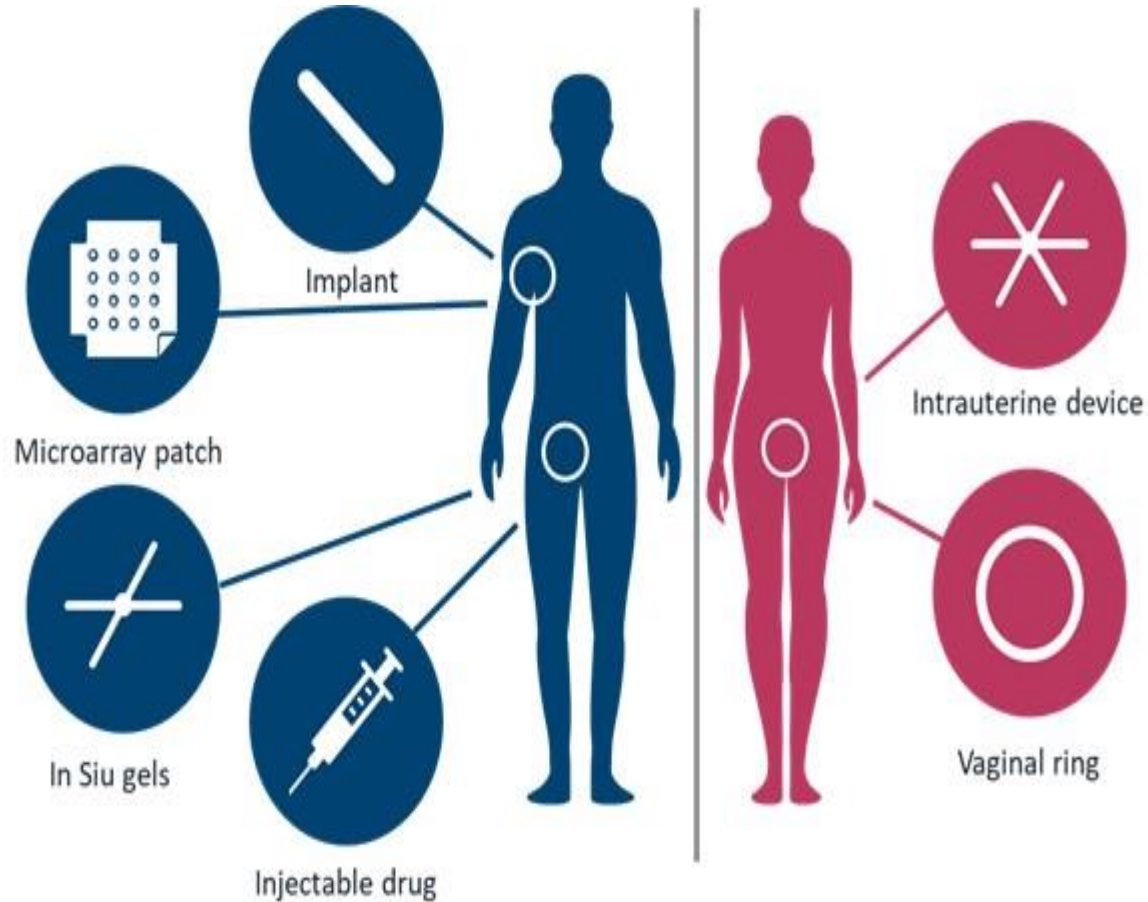
TYPES



The term long-acting (LA) generally implies:

- **unmodified** original drug of interest with a formulation that incorporates a slow or extended release depot or device to the, (i.e. penicillin example above, PEG-IFN.....)
- novel small molecule or prodrug (nano formulations) specifically designed for compatibility with LA delivery

MODALITIES



It is reported that :
29% are in the form of implants or devices,
25% are in microencapsulation or polymeric form, including in-situ hydrogels and chemical modifications such as liposomes and suspensions.

Regarding the route of administration,
74% are injectable,
26% other routes.

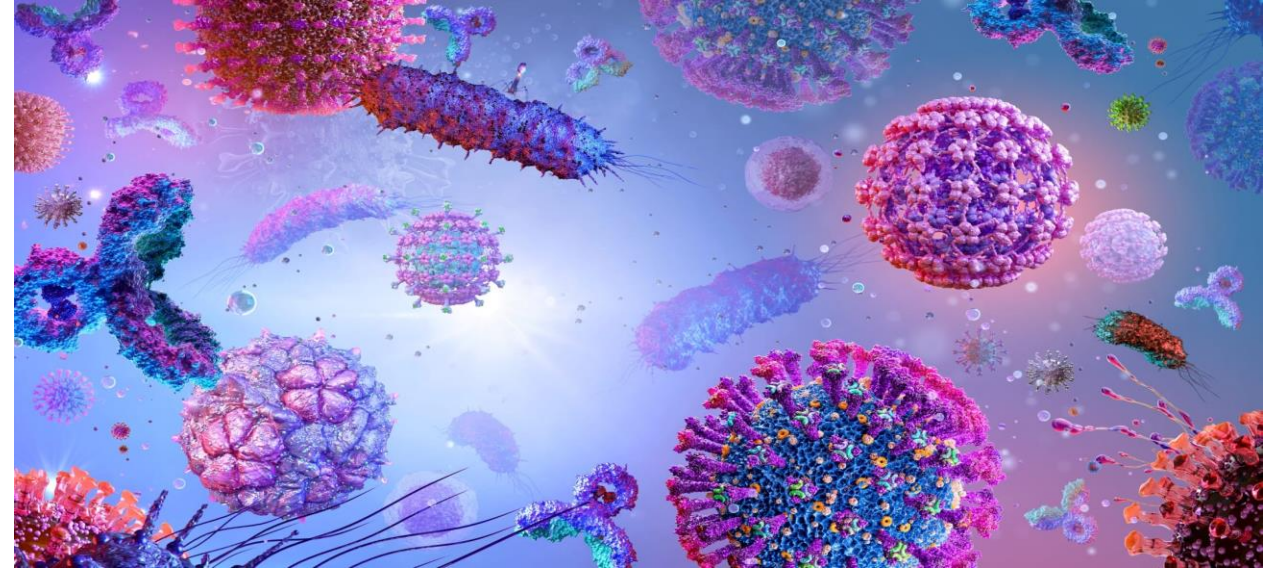
Durations of drug release,
55% lasting for ≥ 1 week



77% for ≥ 1 month.

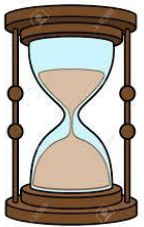
Infectious diseases

LA-HIV Treatment



Medications used to treat an infection might be used to prevent the same infection, as is the case with meningococcal meningitis, malaria, influenza.

In the case of LA formulations, antimicrobial chemoprophylaxis could replace a vaccine in controlling the spread of disease



LA-HIV Prevention

There is no vaccine approved to prevent HIV, long-acting antiretrovirals are a highly effective and safe alternative, recognizing the need for multiple injections to maintain protection

Nanoformulated drugs for HIV Infection : treatment and prevention

M E E T I N G

**Un approccio
multidisciplinare
alla terapia
Long Acting in HIV
per la sfida del futuro**

