CONTROLLED RELEASE PARENTERAL DOSAGE FORM

- The time of onset of action for IV administration is seconds, and for IM and SC injections is minutes.
- Depot injectable preparations achieve prolonged release and maintain therapeutic concentrations of drug throughout 2–5 days.

- The bioavailability of a drug, particularly from prolonged-release formulations, can be influenced by the location of the IM injection site.
- SC implants and pellets also achieve prolonged release of drug.
- A number of recombinant proteins and peptides are orally inactive and must be given by the parenteral route.

Compared with that of injectable solutions, the rate of drug absorption of injectable suspensions is prolonged, because additional time is required for disintegration and dissolution of the suspended drug particles.

The slower release of drug from an oily suspension compared with that of an aqueous suspension is attributed to the additional time taken by drug particles suspended in an oil depot to reach the oil/water boundary and become wetted before dissolving in tissue fluids.

SABER®

- It is a drug delivery system prepared using high viscosity-based compounds to provide controlled release of drug by specific periods.
- The water-soluble, sugar-derived sucrose acetate is prepared by conversion of the isobutyrate to a liquid form by the addition of an organic solvent.

SABER®

- This system was also used in the nasal application of vaccine antigens on horses.

ISCOM®

- Immune system stimulating complexes (ISCOM®) are known.
- It is a microparticulate system formed by the trapping of the antigen within a cage-like molecular structure at a diameter of 30-40 nm.

ISCOM®

- ISCOM matrix technology;
- It is used to protect against the influenza seen in the horse for at least 15 months.