D.PHARM • SECOND YEAR

अस्पताल एवं नैदानिक फार्मेसी

अध्याय 3

आपूर्ति श्रृंखला एवं भंडार नियंत्रण

हिंदी अध्याय नोट्स



DIPLOMA IN PHARMACY

SUPPLY CHAIN AND INVENTORY CONTROL

SUPPLY CHAIN MANAGEMENT

Suppliers चुनने, demand forecast, purchasing, receiving, storing और medicines distribute करने की coordinated process।

FLOW

1. **Supplier selection**



quality, reliability, price और regulatory compliance।

2. **Procurement**



demand forecast, budget, order और follow-up।

3. **Transport**



required temperature, light और security conditions सुरक्षित रखना।

4. **Receipt and inspection**



medicine, quantity, batch, expiry, packaging और documents verify करना।

5. **Storage**



quality और traceability बनाए रखना।

6. **Distribution**



authorized care area को सही item और quantity issue करना।

INVENTORY CONTROL

लक्ष्य: uninterrupted care के लिए पर्याप्त stock, पर excess capital, expiry या wastage नहीं।



- excess capital
- expiry
- wastage

- care में interruption
- patient risk
- loss of trust

KEY TOOLS

- ABC = annual consumption value।
- VED = clinical criticality।
- FSN = movement rate।
- EOQ = economical order size।
- Safety stock = uncertainty का buffer।
- Reorder level = नया order शुरू करने वाला point।

SPECIAL DRUG LISTS AND CONTROLS

HIGH-ALERT MEDICINES

- Examples: insulin, heparin, concentrated potassium chloride और chemotherapy।
- Prominent identification, segregated storage, standardized concentrations और policy के अनुसार independent checks।

EMERGENCY MEDICINES

- Examples: adrenaline, atropine, amiodarone और selected antidotes।
- Sealed crash carts या emergency kits में रखें; completeness, expiry और हर use के बाद replacement check करें।

SCHEDULE H1 — INDIA

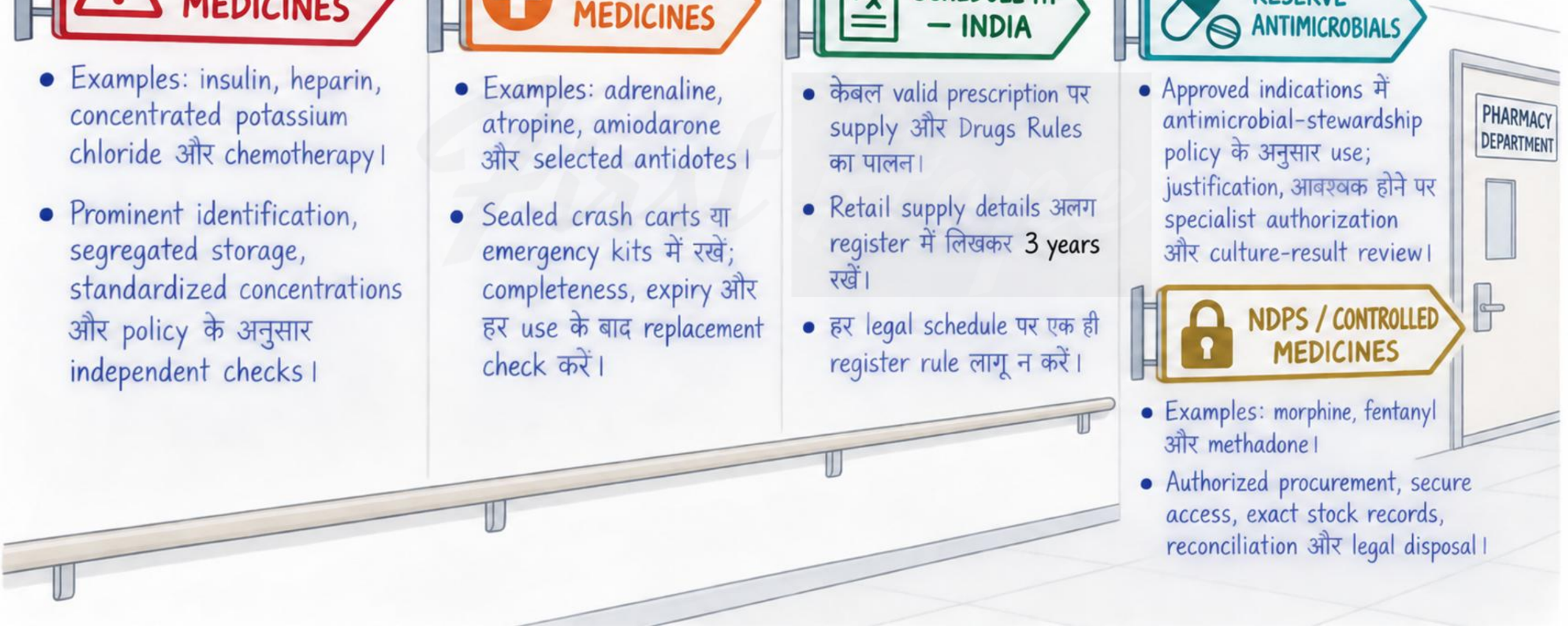
- केबल valid prescription पर supply और Drugs Rules का पालन।
- Retail supply details अलग register में लिखकर 3 years रखें।
- हर legal schedule पर एक ही register rule लागू न करें।

RESERVE ANTIMICROBIALS

- Approved indications में antimicrobial-stewardship policy के अनुसार use; justification, आवश्यक होने पर specialist authorization और culture-result review।

NDPS / CONTROLLED MEDICINES

- Examples: morphine, fentanyl और methadone।
- Authorized procurement, secure access, exact stock records, reconciliation और legal disposal।



DRUG PURCHASING PROCEDURE

PURCHASE CYCLE

Need / indent → formulary check → quantity और budget approval → method selection → supplier evaluation → purchase order → receipt and inspection → payment और stock entry।

DRUG SELECTION

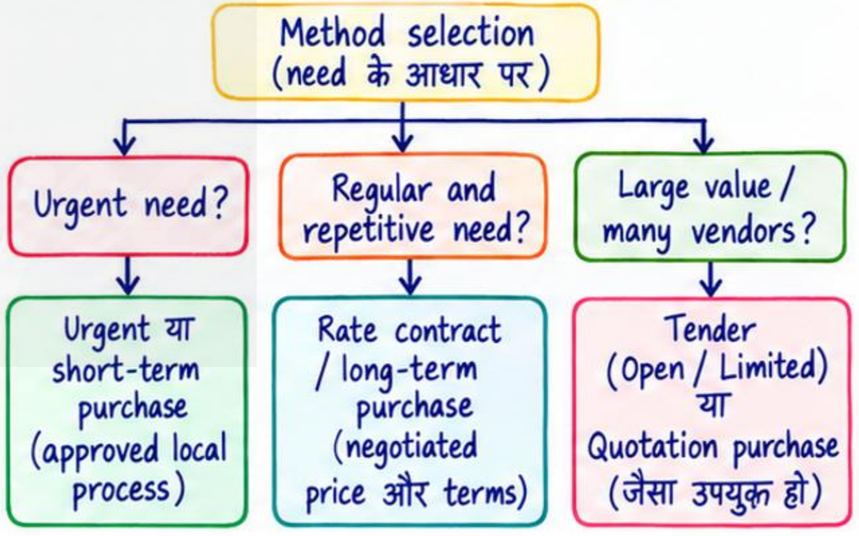
P&T Committee या authorized body, clinical need, efficacy, safety, quality, availability और total cost देखती है। Suitable होने पर formulary / Essential Medicines List items prefer करें।

COMMON PURCHASE METHODS

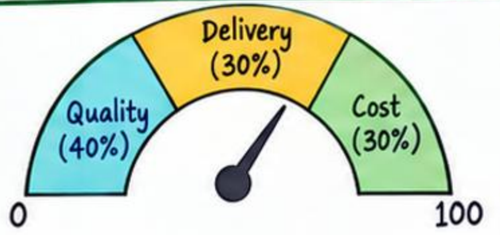
- Urgent या short-term purchase: immediate need; approved local process और reason document करें।
- Rate contract / long-term purchase: regular demand के लिए negotiated price और terms।
- Open tender: eligible vendors publicly compete करते हैं।
- Limited tender: selected qualified vendors से bids।
- Single tender: proprietary या sole-source item के exceptional use में justification।
- Quotation purchase: institutional rules के अनुसार authorized suppliers की quotations compare करें।

सिर्फ price पर selection न करें — quality assurance, regulatory status और dependable delivery आवश्यक हैं।

METHOD SELECTION FLOW

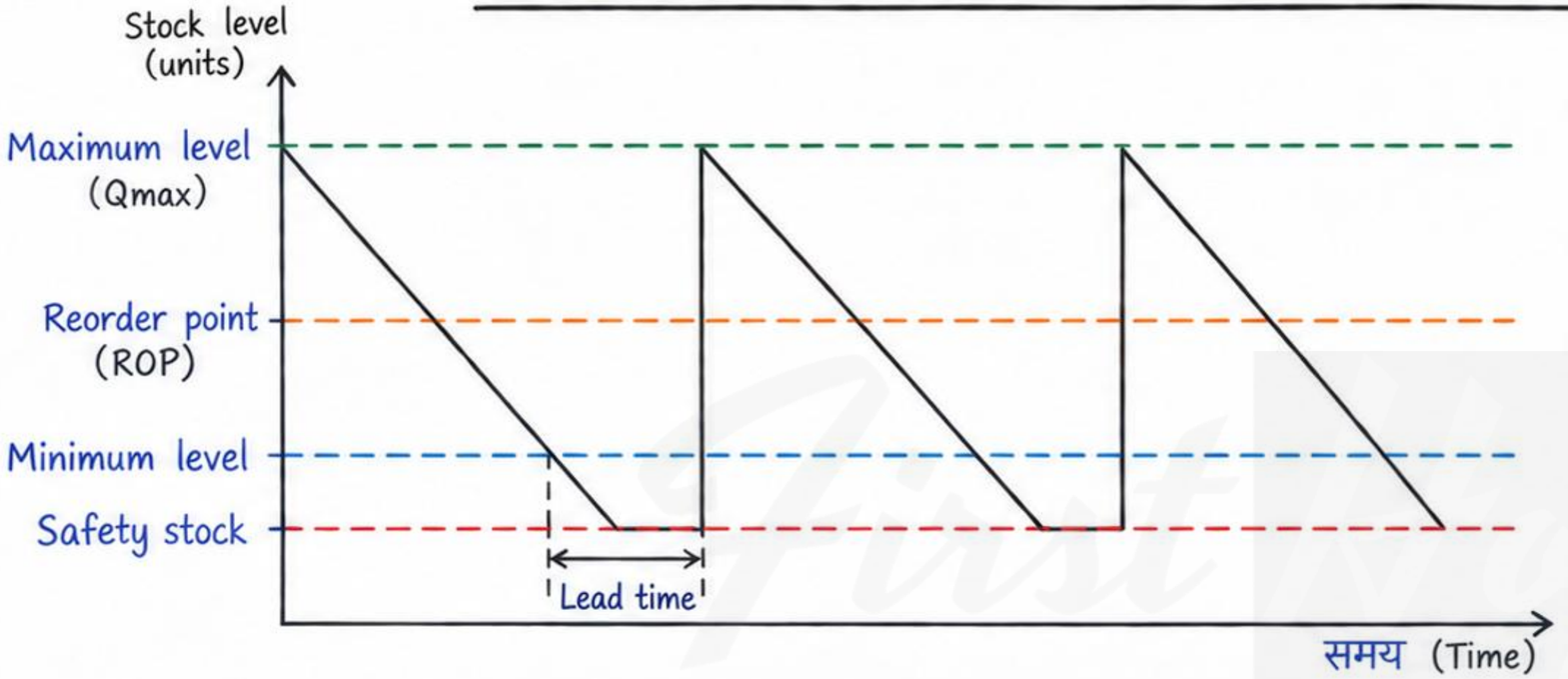


SUPPLIER SCORE (उदाहरण)



High overall score = more suitable supplier

EOQ, REORDER LEVEL AND STOCK LEVELS



ECONOMIC ORDER QUANTITY

$$EOQ = \sqrt{2DS / H}$$

D = annual demand, units/year में
S = ordering cost, per order
H = holding cost, per unit/year

EOQ अपनी assumptions के अंतर्गत ordering cost और holding cost को balance करता है। यह expiry, storage space, shortage या variable demand पर judgement का स्थान नहीं लेता।

REORDER POINT

Reorder point = average daily usage × lead time + safety stock

Lead time = order देने से usable receipt तक का समय।

Safety stock = demand या supply uncertainty का buffer।

STOCK LIMITS

- Minimum level: unacceptable stockout risk से पहले lowest planned stock।
- Maximum level: capital, crowding और expiry सीमित रखने के लिए highest planned stock।

GOOD CONTROL

Actual consumption, lead time, seasonality, emergency need और supplier performance review करें; conditions बदलने पर levels update करें।

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