National Home Infusion Association

Home Infusion Basics

Key Principles for Physicians

What are the benefits of home infusion?

- Allows patients with infectious diseases, gastroenterological disorders, immune deficiencies, heart failure, and more, to receive infused parenteral medications in the comfort of their home
- Increased quality of life due to fewer disruptions to school, work, daily activities
- Reduces risk of hospital or facility-acquired infections
- Preserves hospital and facility beds for higher acuity patients
- Patient satisfaction scores of > 97% in 2019

Healthc (Amst). 2017 Mar;5(1-2):68-80. doi: 10.1016/j.hjdsi.2016.04.004. Epub 2016 Apr 29.
https://www.homecaremag.com/march-2019/home-infusion-data
http://nhia.org/documents/nhif-patient-satisfaction-benchmarking-report-q2-nhia-home-infusion.pdf

Who provides home infusion?

- Specialized, closed-door pharmacy with expertise in sterile compounding, clinical management of IV therapies

- Multi-disciplinary clinical teams (pharmacists, nurses, dietitians)

http://www.nhia.org/providerportal/

Who can receive home infusion?

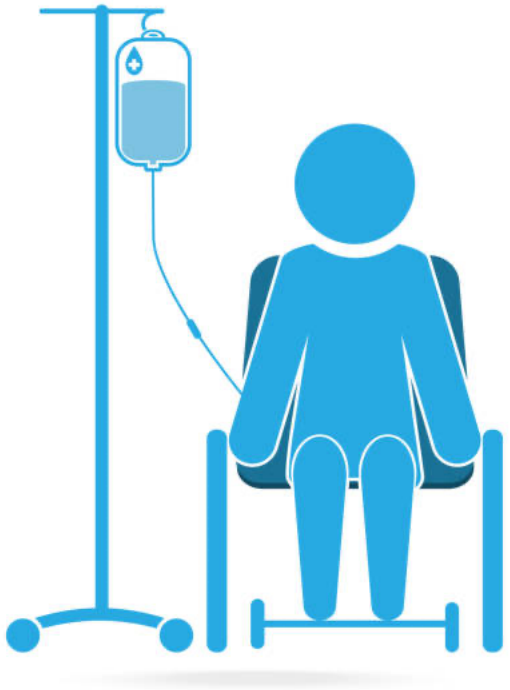
Home infusion is safe for most patients and medications.

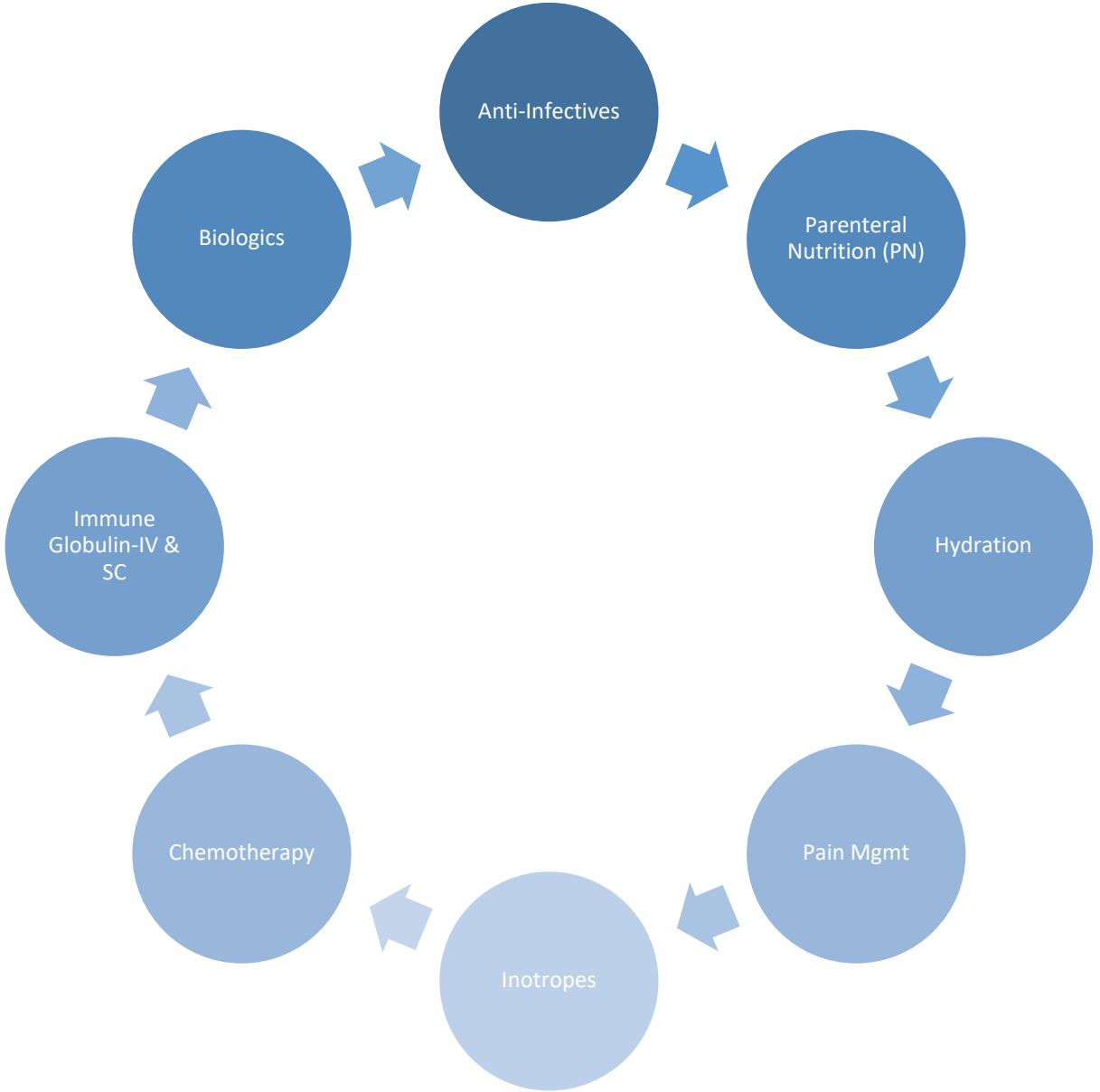
During the intake process, home infusion clinicians will assess patient appropriateness of home infusion.

Some areas to be assessed include

- Home environment safety
- Medication administration method and safety
- Patient and/or caregiver ability to learn and self manage
- Medication storage capabilities

Therapies Delivered in the Home





Who Pays for Home Infusion?

Payer	Coverage
Commercial Payers	Comprehensive. Most often covered under the major medical benefit. Co-pays/deductible may apply.
Medicare Part B	Limited to approximately 30 drugs that require the use of an item of durable medical equipment (pump). 20% cost sharing which may be covered by a secondary policy.
Medicare Part D	Limited to the drug. No coverage for equipment, supplies, pharmacy professional services, nursing. Patients may qualify for nursing under Medicare Part A home health if homebound and meet skilled need requirements. Patients are typically offered a quote to pay for non-covered services out of pocket.
Medicare Advantage	Varies. Some payers model their plans after commercial products and cover home infusion, some offer no coverage. The home infusion provider can determine coverage for Medicare Advantage Plans
Medicaid	Comprehensive, with some exceptions according to state.

How is home infusion provided?

- Based on physician order for a parenteral (IV, SC) medication
- Upon receipt of order, the home infusion provider will:
  - Verify insurance coverage for home infusion and provide benefit information to patient, referral source
  - Perform an assessment for eligibility
  - Design the plan of treatment
  - Prepare and deliver medication
  - Coordinate nursing services for patient education and assessments

How to Refer a Patient for Home Infusion

- Identify patient
- Identify a home infusion provider
  - Commercial payers may limit choice based on networks
- Submit referral (phone, fax, electronic referral system)
- Provide clinical history, lab results, etc.
- Provide physician order for infused medication (i.e. labs)

Physician Ordering

- Elements needed: Drug, dose, frequency, duration, route (IV,SC)
- The home infusion pharmacist will review the order and assist with developing the plan of treatment as needed
- Labs
- Phone
- Fax
- E-Prescribe

Example Prescription

Patient:
DOB:
Allergies:

Rocephin 2 grams IV QD x 14 days

Labs: CBC, BMP once weekly

MD Name

Minimum Referral Information

- Demographics/Medical History
- Reimbursement/Insurance Information
- Diagnosis for IV Therapy
- Prescriber Information
- Drug/Therapy Order
- Vascular Access
- Monitoring Plan

Plan of Treatment

- Once the order and clinical information is received, the pharmacist will create a plan of treatment and send to the prescriber for review.

- Plan of Treatment includes:
  - Drug (dose, frequency, route, method of administration)
  - Catheter type and maintenance instructions (flushing, dressing change frequency)
  - Nursing orders
  - Lab/monitoring plan
  - Special instructions
  - Goals

Access Devices for Home Infusion

Daily therapies longer than 14 days in duration: antibiotics, parenteral nutrition, hydration, etc.

- PICC (Peripherally Inserted Central Catheter)
- Midline
- Subcutaneous (SC)
- Implanted port

Daily therapies less than 14 days

- Peripheral (PIV)
- Midline

Intermittent therapies: biologics, enzymes, immune globulin, etc.

- Peripheral (PIV)
- Implanted port

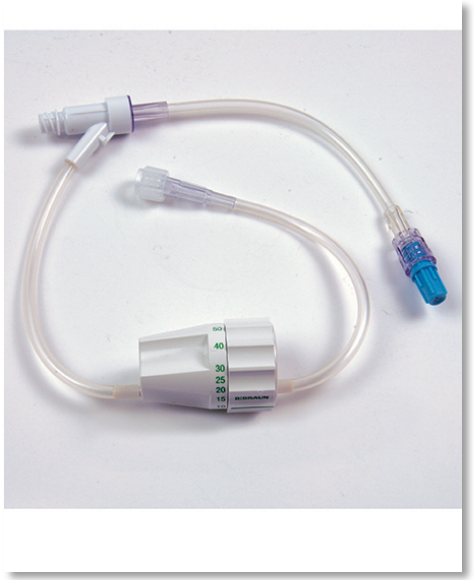
Check with the Home Infusion Provider: Except for implanted ports, many vascular access devices can be inserted at home!!!

Methods of Administration (MOA)

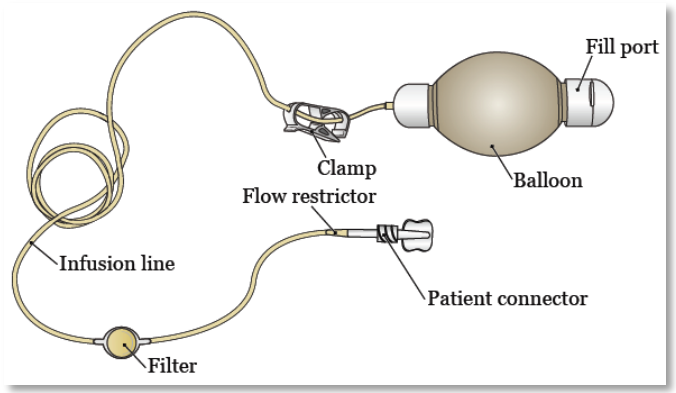
- IV Push: simplest, quickest
- Gravity: Drip or Rate Flow
- Elastomeric Device: non-mechanical; disposable rate flow pump
- Syringe Pump
- Ambulatory Infusion Pump

**Selection of MOA accounts for patient clinical situation, patient/caregiver ability to learn, and payer considerations

https://www.myamericannurse.com/a-matter-of-i-v-push-drug-safety/



https://www.msdonline.com/Catalog/Oncology/Infusion-Therapy/Extension-Sets/Flow-Regulator/BUUS5300#undefined1



https://www.mskcc.org/cancer-care/patient-education/continuous-infusion-elastomeric-pump

http://www.leadersmag.com/issues/2015.2_Apr/Making%20a%20Difference/LEADERS-Eric-Steen-InfuSystem-Holdings.html

http://www.integratedmedsys.com/wp-content/uploads/2018/09/IMS_EMED_Products-Sheet.pdf

Importance of Sterile Compounding

- Performed in compliance with United States Pharmacopeia <797> standards
- Accreditation for quality validation
- Therapies are compounded for ease of self-administration
- Ensures compatibility and stability in container-closure systems
- Ensures sterility maintained throughout the storage period

https://www.usp.org/compounding/general-chapter-797

Care Management Process: Pharmacy Services

- Individualized Therapy Design:
  - Diagnosis and co-morbidities
  - Drug characteristics/stability
  - Laboratory evaluation
  - Access device care and monitoring
  - Patient/caregiver ability
  - Patient preference and goals
- Frequent communication with status updates, lab results and recommendations
- Coordination with nursing to perform assessments, monitoring, post-infusion status, and education for administration
- 24/7 on-call support
- Financial assistance

https://consultqd.clevelandclinic.org/overcoming-the-challenges-of-home-infusion-pharmacy-care/
https://www.nursingcenter.com/journalarticle?Article_ID=851652&Journal_ID=237151&Issue_ID=851651
https://www.fiercehealthcare.com/hospitals-health-systems/industry-voices-research-shows-how-home-infusion-care-can-help-achieve

Case Study: Cellulitis

HPI: 54 yr old male fell doing yard work and injured right leg 10 days ago. Pt. was ordered Keflex 500mg po BID x 10 days and is now back at MD office for follow up.

Insurance: Blue Cross/Blue Shield

PMH: CVI, HTN, AF, HLD

Meds: Rosuvastatin, Apixaban, Lisinopril

NKDA

Temp: 99.8^{0}F RR: 18 HR: 110

BP: 132/84

Labs: BMP shows Stage 1 CKD

renal insufficiency

Assessment: Cellulitis has not resolved after 10-day course of oral antibiotics.

Case Study: Cellulitis

- Treatment Options:
  - Consider IV Alternatives
    - Likely pathogens: gram-positive cocci, including staph, strep, possibly MRSA
    - Refer to Home Infusion Provider
    - Medication Options:
      - Vancomycin: labs and midline or PICC
      - Tigecycline (Tygacil): Peripheral or Central
      - Ortitavancin (Orbactiv): Peripheral or Central
      - Eravacycline (Xerava): Peripheral or Central

Case Study: Cellulitis

- Treatment Decision:
  - Patient Insurance Benefits: Covered at 100%, Out of Pocket and Deductible met
  - The decision was made by the PCP to have a midline inserted in the home setting by the home infusion provider due to COVID-19 pandemic
  - Upon consultation with the home infusion pharmacist, the decision to put patient on Tigecycline (Tygacil) due to indication for SSSI's, no renal dosing adjustments, and the ability to use a MB+ device which limits compounding and has up to 30-day BUD, reduced delivery needs
  - Labs every 7 days: BMP, CBC (depending on length of tx)
  - Dose: 100mg x 1, then 50mg every 12 hours for 10 days
  - Nursing visits (in-person or virtual) Day 1, 2, 7, and 10
  - Results: After 10 days, patient was seen via telemedicine and therapy discontinued

Resource: 2018 Infectious Diseases Society of America Clinical Practice Guideline for the Management of Outpatient Parenteral Antimicrobial Therapy

https://academic.oup.com/cid/article/68/1/e1/5175018

Summary

- Home infusion is a safe and effective treatment option for patients
- A wide range of therapies are provided with pharmacist and nurse clinical management
- Multi-disciplinary collaboration between physician, nurses, pharmacists, and dieticians
- Cost-effective alternative to hospital and LTC/SNF
- Patients have very high satisfaction when receiving services in the home setting
- Patients become independent, taking responsibility for their own care

For more information, please email **info@nhia.org** or call 888-206-1432