

# A Comparison of Outpatient Parenteral Antibiotic Therapy (OPAT) Outcomes: Physician Office and Home Based Therapy

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## Introduction

The use of OPAT has become a standard modality for patients requiring intravenous antibiotics, with one of the main benefits being hospital/cost avoidance<sup>1</sup>. The delivery of OPAT may occur at home or at an infusion center. The goal of our study was to explore if there were any differences in clinical outcomes between these two settings.

## Methods

We retrospectively reviewed outcomes of patients receiving OPAT supervised by the authors in an infusion clinic as an extension of the physicians' office (n=117) and OPAT supervised by the authors but provided at home by an infusion company and visiting nurses (n=48). Common referral sources for these patients included the hospital, orthopedic surgeons, and primary care physicians. Our office OPAT patients see the physician twice a week, and home OPAT patients come to the office to see the physician one a week.

A database for patients cared for by the authors in these settings was created with variables reviewed including: demographics, number of comorbidities, diagnosis, antimicrobials used, OPAT duration, type of venous access, referral site, complications, and clinical outcome.

- Success was defined as lack of disease reoccurrence, emergency room (ER) visit, or admission during OPAT and within 30 days of OPAT discharge.
- Modified success was defined as the development of a complication (e.g. *C. difficile*, peripheral inserted catheter (PICC) infection, or PICC thrombosis) not requiring an ER visit or readmission.
- Failure was defined as disease reoccurrence, ER visit, or admission during OPAT or within 30 days of OPAT discharge.

## Results

### Demographics

	Office OPAT	Home OPAT
N	117	48
% Male	40%	35%
Average Age (SD)	60 (18)	58 (17)
Average # of Comorbidities (SD)	6.8 (3.5)	6.8 (3.2)

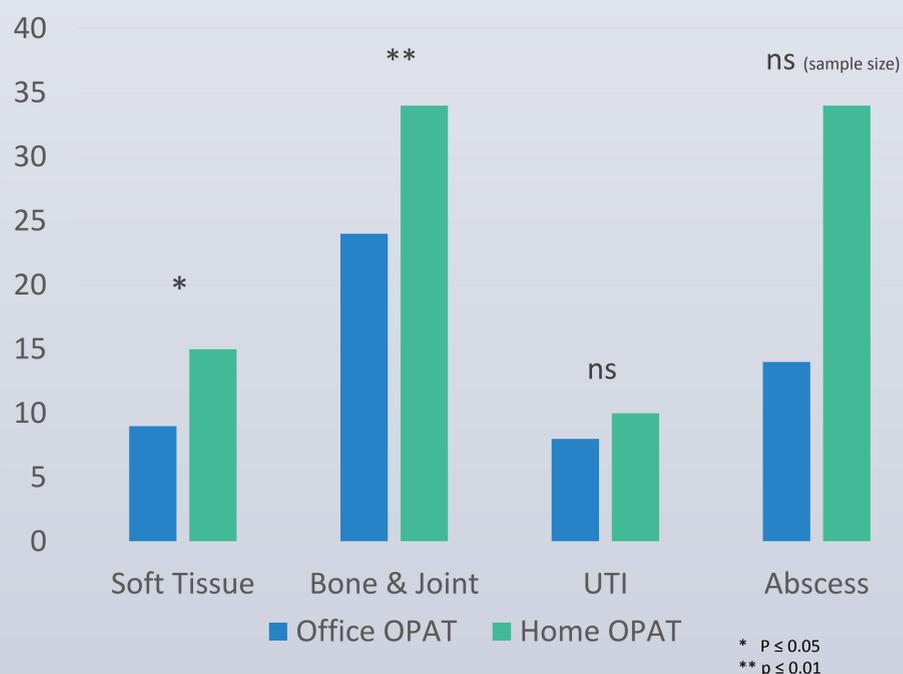
### IV Access

PICC placement	21%	82%
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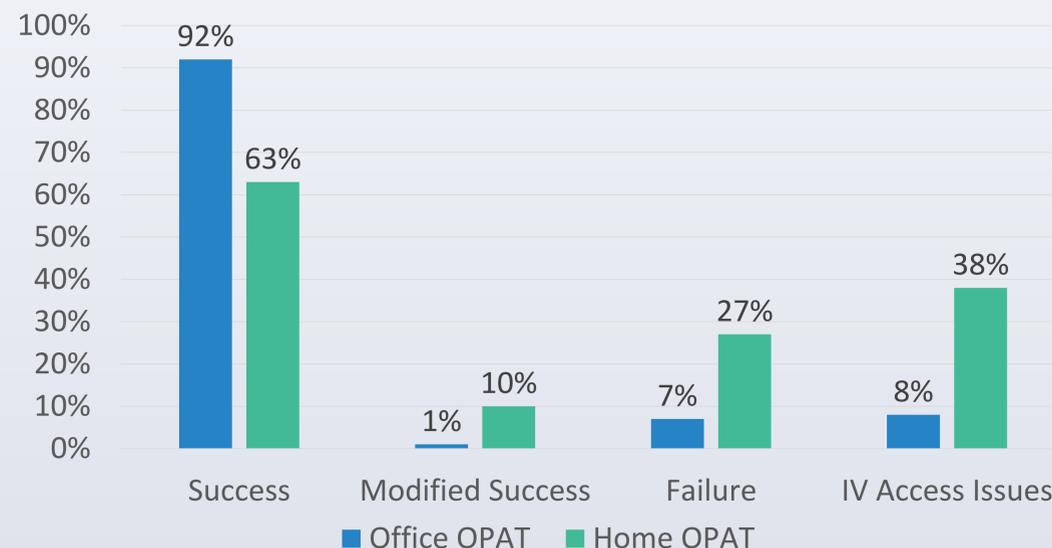
### Hospital Avoidance

Began as Outpatient	63%	37%
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### OPAT Duration (days) by Diagnosis



### Clinical Outcome Measures (for all, p < 0.002)



### Modified Success Breakdown

Office OPAT: n=1. Post-OPAT C. diff.

Home OPAT: n=6. All PICC related: 3 PICC infections and 3 PICC clots.

### Failure Breakdown

Office OPAT: n=7. 4 OPAT-related admissions  
3 admissions unrelated to OPAT

Home OPAT: n=13. 4 OPAT-related admissions  
2 admissions unrelated to OPAT

7 ER visits: 3 for PICC's not flushing  
1 for PICC pain  
3 for nausea / malaise

## Conclusions

- OPAT in the office setting had better clinical outcomes compared with OPAT provided at home.
- OPAT duration was shorter for soft tissue infections and bone & joint infections in the office setting.
- The increased use of PICC's in the home setting (82%) compared to the office setting (21%) contributed to the difference in clinical outcomes. PICC's led to an increase in complications and ER visits for home OPAT patients. These were potentially avoidable if OPAT were conducted in the office setting and/or if peripheral IV's were used.
- ER visits for home OPAT patients for nausea/malaise were also potentially avoidable, as IV fluids and antiemetic's can be prescribed by the on-site physician during office OPAT.

## Discussion

- Closer physician monitoring in the office may contribute to the differences in OPAT duration and clinical outcomes in the two settings.
- Office OPAT could be associated with greater cost savings than home OPAT due to the decreased duration of therapy for certain diagnoses, decreased overall complication rate, and decreased PICC usage.

## References

<sup>1</sup> Paladino JA, Poretz, D. Outpatient parenteral antimicrobial therapy today. *Clinical Infectious Diseases* 2010; 51(S2):S198-S208.

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