INTRODUCTION
Acute bacterial rhinosinusitis (ABRS) is a leading cause of disease in the United States (1). The Sinus and Allergy Health Partnership (SAHP) set forth guidelines to facilitate the accurate diagnosis of ABRS prior to initiation of antimicrobial therapy. Key symptoms include the presence of purulent nasal discharge, unilateral facial pain or pressure, maxillary dental pain, and a deterioration of symptoms after an initial improvement. The guidelines drive antibiotic selection based on the most common bacterial culprits (2).

Nonosmolar methicillin-resistant *Staphylococcus aureus* (MRSA) has emerged as a significant pathogen in the fields of medicine and otolaryngology (3,4). MRSA is resistant to first-line antibiotics, and community-acquired strains (CA-MRSA) with an intermediate spectrum of drug resistance have now been identified (3, 5-7). Clindamycin is the recommended first line antibiotic for suspected cases of CA-MRSA (8).

We present a series of nine patients, all of who presented to community physicians with signs and symptoms of ABRS. All nine patients failed conventional antimicrobial therapy and developed periorbital complications of sinusitis. All patients required surgical management, hospital admission, and sensitivity-driven parenteral antibiotics. Cultures identified the pathogen to be CA-MRSA with an identical antibiogram in each case.

MATERIALS & METHODS
A retrospective review of nine patients presenting to the Otolaryngology – Head & Neck Service at the University of Texas Health Science Center in San Antonio from 2004 to 2006. All nine patients presented with complicated sinusitis with periorbital extension. Complicated sinusitis was defined according to Chander’s criteria (9) with identification of preseptal cellulitis, orbital cellulitis, subperiosteal abscess and/or orbital abscess. No cases of cavernous sinus thrombosis or intracranial complications were identified. Data collected from chart review included age, sex, past medical history, presenting signs and symptoms, onset of illness, therapy initiated prior to emergent presentation, imaging results, operative procedures performed and operative findings, and culture sensitivities.

RESULTS
Over a period of twenty months, nine patients presented to our institution with periorbital complications following an antecedent sinusitis (Table 1). Seven males and two females [9=9] ranging in age from nine months to twenty-five years [mean=12.5 years] were identified. None of the patients had a chronic medical illness, immunosuppression, recent hospitalization, previous MRSA infection, history of endonasal or sinus surgical manipulation, nor a history of repeated or recent antibiotic use. In all but one case, patients had been seen by an outside primary care physician, diagnosed with ABRS, and started on appropriate first-line oral antibiotic therapy. Despite appropriate medical management, each progressed. Based on physical examination and radiographic imaging (Figs. 1 & 2), all nine patients had developed orbital complications including periorbital cellulitis, lid abscess, orbital abscess, and one case of palpebral blindness. After early surgical intervention and intraoperative cultures, CA-MRSA was identified as the primary pathogen with a hallmark antibiotic resistance and sensitivity profile, as listed in Table 2. Following Infectious Disease consultation, all patients were treated with vancomycin and subsequently transitioned to oral antibiotics once culture results were finalized. Ophthalmologic consultation also aided in the management and follow-up of orbital disease.

CONCLUSIONS
Although the number of patients in our case series is small, the implication for sinusitis patients is immense. In all cases reviewed, initial medical management conform to SAHP guidelines, but was ineffective. Additionally, none of the typical risk factors predisposing to MRSA infection, including chronic medical illness, were identified in any of our patients presenting with complicated sinusitis.

While none of our findings warrant a change in primary treatment of ABRS, they do emphasize the importance of early follow-up to assess for clinical deterioration. Patients should be instructed to report worsening symptoms in the ensuing 48 to 72 hours following the initiation of antibiotic therapy. Early consideration of CA-MRSA sinusitis in these patients is paramount. In each case, risk factors such as a history of chronic rhinosinusitis, recent antibiotic use, and previous sinusonal manipulation should also raise the concern for MRSA infection. Early endoscopic directed cultures of purulent discharge and an antibiotic switch to clindamycin should be initiated in this setting.