

# Update on number of cases and resistance patterns of *Neisseria gonorrhoeae* isolates in Austria (2011-2018)

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**Background:** Gonorrhoea, caused by the gram-negative bacterium *Neisseria gonorrhoeae*, is the second most common bacterial sexually transmitted infection (STI). The number of cases as well as infections with resistant *N. gonorrhoeae* are increasing all over the world.

**Objectives:** To determine the incidence of gonococcal infections sent to and isolated in the Outpatient Centre for STIs in Vienna and to evaluate the resistance patterns of *N. gonorrhoeae* strains from the Outpatient Centre, as well as collected in three different STI centres in Vienna from 2011 to 2018.

**Patients:** 190,245 men and women (Outpatient Centre 2011-2018)

**Diagnosis methods:**

- Nucleic acid amplification test (sampling sites: oral, anal, cervical/ urethral)
- Gram stain
- Culture on selective and nonselective GC agar

**Antibiotic resistance testing:** Etest (Ceftriaxone, Cefixime, Azithromycin, Ciprofloxacin, Penicillin, Tetracycline)

**Results patients:**

- Gonococcal infections: increased 2011: Ø 1.4% (3,9% men, 0.3% women); 2018: Ø 2.2% (4.1% men, 0.2% women) [Fig.1]
- Age: 12-85 (most patients between 21-30 years)

**Results antibiotic resistance testing:**

Ceftriaxone resistance: none

Cefixime resistance increased: 0.3% (2011), 11.9% (2016), 10.1% (2017), 5.5% (2018) [Fig.2]

Azithromycin resistance increased: 0.9% (2011); 16% (2018) [Fig.3]

Ciprofloxacin resistance steady: 64.1% (2011); 63.9% (2018) [Fig.4]

Penicillin resistance decreased: 16% (2011); 9.6% (2018), intermediate resistance: still high [Fig.5]

Tetracycline resistance decreased: 36.1% (2011); 13.7 (2018) [Fig.6]

**Conclusions:**

- Ceftriaxone still gold standard for antibiotic therapy
  - Rising resistances (Cefixime + Azithromycin): alarming!
- **urgent need for the performance of gonococcal culture to determine resistance patterns of gonococcal strains**

