Monitoring osteoporosis treatment with oral bisphosphonates

**Decision to treat with oral bisphosphonate (alendronic acid 70 mg weekly 1st line)**

- **Indication for treatment**
  - Fracture risk assessment report
  - FRAX score
  - Clinical guideline, eg RCP steroid guidelines
- **Check whether alendronic acid is appropriate**
  - Adequate renal function (eGFR>35 m/min)
  - Contra-indications, eg oesophagitis

**Calcium & vitamin D supplement**

**Patient information sheet**

**Measure PINP at prescription**
- Gold top bottle to STH clinical chemistry – no special preparation or storage

**Compliance check at 1-2 months**
- (GP, practice nurse, pharmacist)
  - In surgery or by telephone

**At 6 months, repeat PINP**
- Check for compliance and side-effects
- Check calcium and vitamin D adequate (via supplements or lifestyle)

**PINP below 35 ng/mL and/or decrease by >10 ng/mL**
- **Good response**

- **Encourage continued compliance**
  - At 5 years refer to MBC for fracture risk assessment to consider break from treatment

**PINP above 35 ng/mL and decrease by <10 ng/mL**
- **Suboptimal response – identify cause**

  1. Compliance issues (most likely)
  2. Recent fracture (within 6-12 months)
  3. Hepatic or renal impairment
  4. Untreated underlying cause of osteoporosis/poor response
    - Measure bone profile, PTH, FBC, ESR, TFT, anti-endomysial antibody, vitamin D, myeloma screen

**Ongoing compliance problems or irreversible cause identified**

- Consider **change in treatment** (eg risedronate, raloxifene, strontium ranelate, denosumab)
- or referral for annual infusion of zoledronic acid or MBC assessment

**Reversible cause identified eg poor compliance**
- Correct underlying cause
- Repeat PINP in another 6 months