Conservative Estimate for Miele Instrument Washer ROI

- **Time savings #**1 = 40 minutes per batch
  - CDC guideline - *If manual cleaning is not performed immediately, instruments should be soaked*
  - Soaking protocol example - 3.2% glutaraldehyde for 40 minutes and rinsed
  - **Note**: This is NOT an issue when using a Miele G7881 Instrument Washer. The machine will clean and disinfect Instruments that have been sitting for up to 6-hours, **no** pre-soaking required.

- **Time savings #2** = Manual instrument scrubbing 52 minutes per day
  - CDC guideline - *Cleaning should precede all disinfection and sterilization processes. Cleaning involves the removal of debris (organic or inorganic) from an instrument or device. If visible debris is not removed, it will interfere with microbial inactivation and can compromise the disinfection or sterilization process*.
  - Solo practice average 15 patients per day – 1 instrument cassette per patient
  - Average 7 instruments per cassette – 105 instruments
  - Average scrub and cassette re-load time – 30 seconds per instrument
  - 105 instruments x30 sec. = 52 min
  - **Risk** - High probability of contaminated puncture wounds
  - **Risk** - Inhalation of splash vapor (air-born transfer of viable organisms)
  - **Risk** – Scrub efficacy varies per staff member

- **Time savings #3** – Ultrasonic Cleaner staff time = 50 minutes per day
  - Solo practice average 15 patients per day
  - Average cassette use 1 per patient = 15 cassettes
  - Medium size ultrasonic tank holds 3 cassettes
  - Cycle time: 30min per 3 cassettes – Staff setup time 10 min per cycle
  - 5 ultrasonic cycles per day = 50 minutes staff time

- **Ultrasonic supply savings** - $8.85 per day
  - CDC guideline - *The "cleaned" instruments will still be contaminated and the cleaning solution will be contaminated with live microorganisms. The solution should be changed at least once a day, using gloves, mask, protective eye wear and clothing.*
  - Manufacturers recommend changing contaminated solution after every cycle
  - $75 per gallon of ultrasonic concentrate
  - Makes 128 gallons of solution or (42.5 3-gallon cycles)
  - Cassette size ultrasonic cleaner holds 3 gallons of solution
  - $75 ÷ 128 × 3 = $1.77 per cycle × 5 cycles = $8.85 per day

192 work days per year (Average dental practice)
Average assistant salary $45,000 = $234.38 per day
Average working hours per day = 7
Average Dental Assistant cost per hour = $33.48
Actual staff savings

- **1 hour per day = $6,428.57 per year**
- **1.5 hours per day = $9,642.85 per year**
- **2 hours per day = $12,857.14 per year**