Maintenance of the IHC Autostainer

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General Principals

- Regular maintenance will prevent issues:
  - Failed slide staining
  - Bacterial growth in buffers
  - Database maintenance – keeping backed up records of runs
  - Hidden issues – leaking lines/broken internal parts

Importance of regular maintenance

- Maintain instrument in peak condition
- Regular maintenance may be a part of a rental agreement and may void a warranty claim if not performed to schedule
- Keeps your IHC quality high
- Maintenance is not just limited to “nuts and bolts” main instrument

Preventative maintenance

- Preventative:
  - Vendor supported
  - aimed at reducing “emergency” engineer support
- Can be
  - General scheduled servicing – lubrication of parts, replacement of worn parts, replace slide drawers etc

Regular Maintenance

- User led
  - Daily,
  - Monthly
  - Quarterly

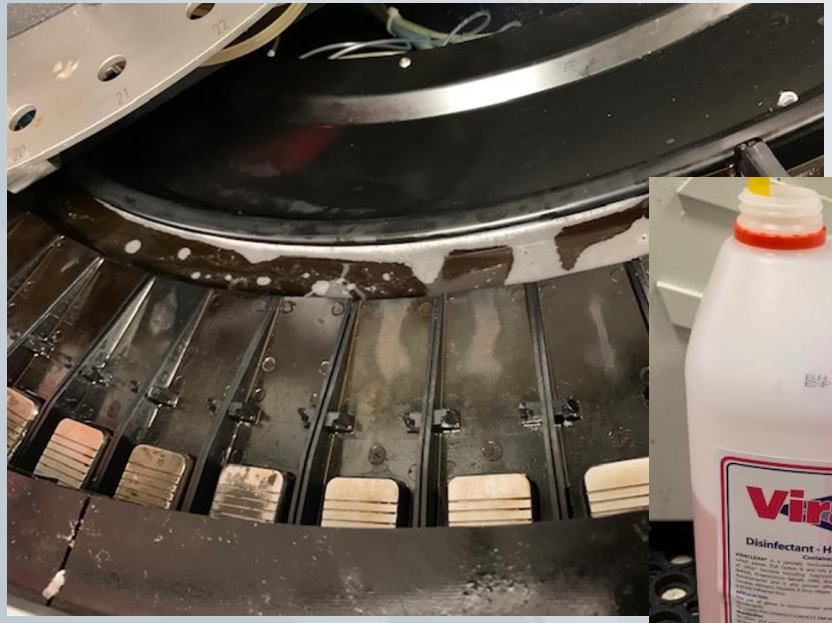
Daily maintenance

Run clean cycles

- Prime instrument – bulk reagents
- Ensure instrument is free from dust
  - Especially fan exhaust area

Monthly Maintenance

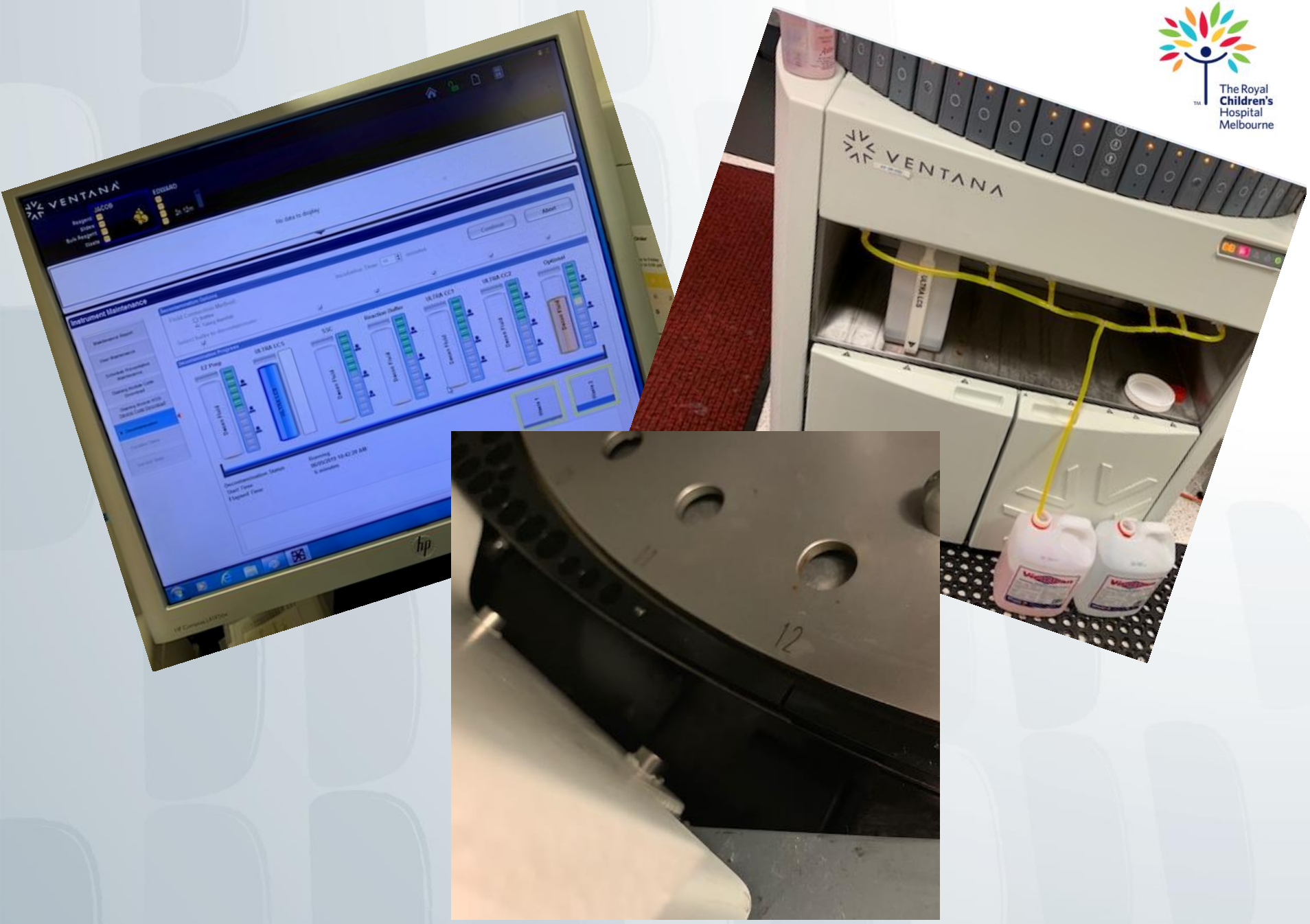
- Cleaning of slide trays/drawers
- Cleaning of waste tubs



Quarterly Maintenance

- Decontamination
  - Carboys containing bulk fluids (buffers)
  - Of instrument and fluid lines

Prevents bacterial growth in instrument and fluids – avoid costly run failure



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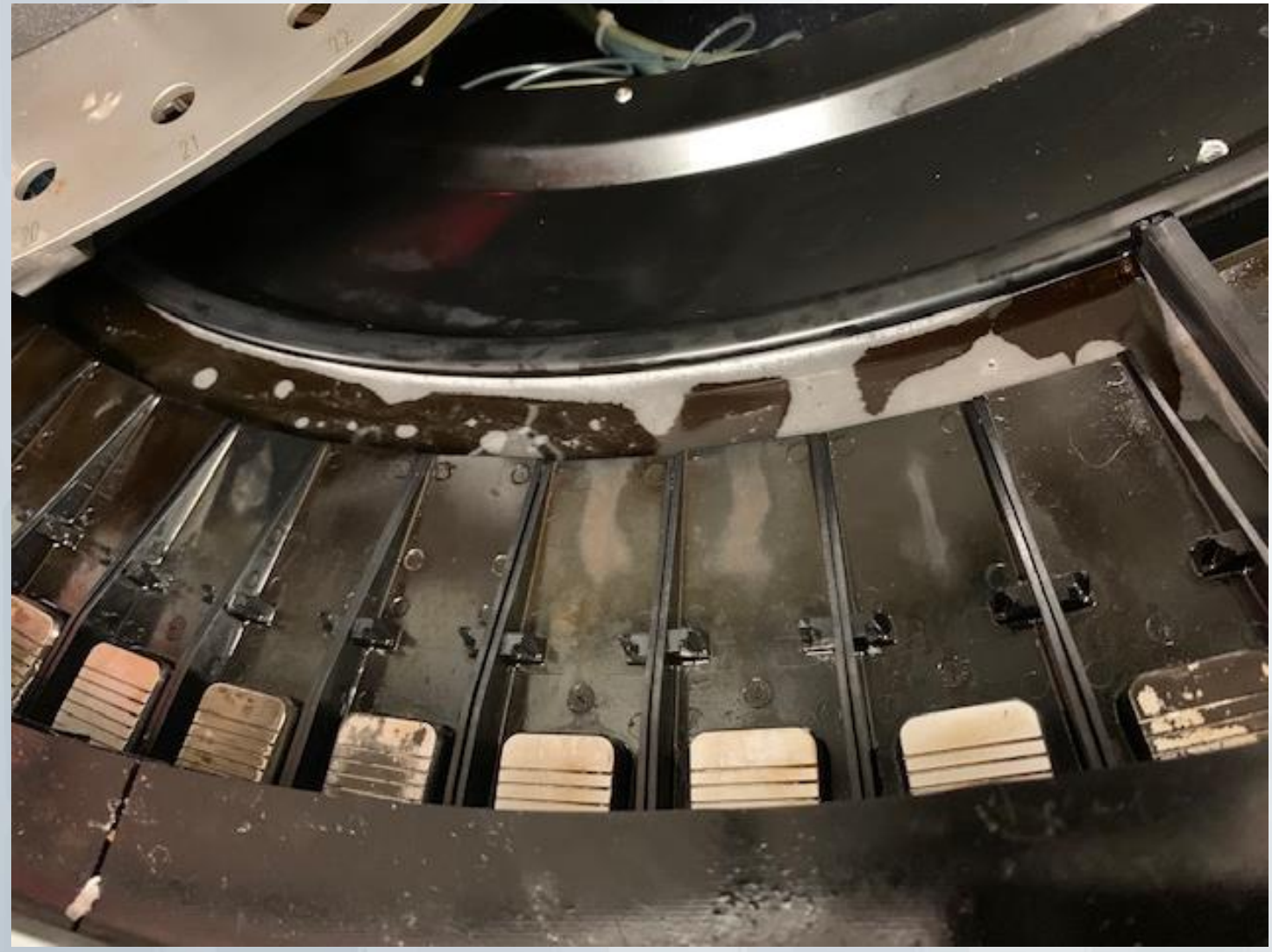

Decontamination tips

- Can be a pain and often takes over 3 hours to complete
- Clean away DAB residue from trays before starting the decon process
- When draining the carboys, the solutions “froth” and hit a sensor causing delay and error messages.
- Spray alcohol on the bubbles to dissolve them.

Decon continued

- The draining hole can block up quickly.
- Use a large syringe from a prep kit box and manually remove as much as you can.
- Keep restarting and repeating that process
- This will hopefully avoid calling in an engineer

Document Maintenance Events

- Very important to document the maintenance
- Instruments will record service history from engineers but not events that are manually led
- If there's no record, it didn’t happen!

Software maintenance

- Regular back up of software
  - Keeps a record of runs/lots/reagent database etc in case of breakdown
- Sending information to archive locations helps in keeping software running smoothly

Database Maintenance

- Not restricted to just keeping run logs
- Take the opportunity to review antibody test list:
  - Check for obsolete protocols
  - Check numbers of tests – review with pathologist if test is still required
  - De-clutter obsolete protocols (eg several optimisation trials)

- Also worth noting to avoid internet connections on instruments
  - Avoid viruses
  - Protection of patient data

  - Fully shut down both the instrument and computer at least once per week-this clears backlogs of errors and keeps software running efficiently.

Other things to consider

- Maintain integrity of reagents and slides
  - Ensure they are kept under manufacturers recommended conditions.
  - Beware of use-by dates
- Stock control
  - Ensure adequate stock of bulks and reagents for testing

- Regular review of instrument condition
  - Alert vendor of any issues which need addressing
  - They rely on the user telling then when something is not quite right
  - May be other users experiencing similar issues/problems.

Communicate trends in errors

- Instruments can be prone to becoming faulty as they age
- We experienced runs being abandoned after we scheduled a landing zone
- The issue was found to be the connection to the barcode scanner
- We had lost numerous runs due to this fault
- Always notify your vendor if trends occur

In summary

- Make regular maintenance part of your schedule
- It will keep your instrument working reliably
- It will reduce the need for calls outs for engineers

Any questions?

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