Getting Back to Practice: COVID-19 implications on DSO clinic operations and management

- Dr. Julian Perry ({my}dentist)
- Dr. Eddie Coyle (Colosseum Dental Group)

Dr. Rebecca Sadler (Portman Dental Care)

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DISCLAIMER

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Preface

- The purpose of this presentation is to share the views of the authors and provide an overview of what measures and guidance could be considered when opening up, managing and operating practices post COVID-19 lockdown

- This document must not be construed as authoritative or definitive but it is meant to share views and best practices

- It must be recognized that public health advise and guidelines change on a regular basis

- The interpretation of the authors' opinions should be considered along side government advise and guidelines

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Why are we concerned – what the Coronavirus does to our lungs (Non-Medical Version)

- The virus targets the Type 2 alveolar cells – Pneumocytes, in the lungs which are responsible for the production of a surfactant (a lipoprotein which reduces surface tension).

- The virus replicates in the cells and when released the cell dies.

- The cell debris causes an inflammatory response which in turn leads to a build-up of fluid in the alveoli (the area of the lungs that are responsible for the transfer of oxygen into the blood system) and the Interstitial tissues - the lung cell walls.

- Example: ***A bit like a sponge, as the lung fills with fluid the ability for oxygen exchange decreases and ultimately the lung tissue becomes more rigid, again decreasing the volume of air able to get into the lungs. The once healthy lung tissue is also damaged by the inflammatory cells and alveoli and bronchioles are destroyed.***

- The complication arising from this process is that the lower lobes of the lungs become consolidated with fluid and cell debris and this consolidated area becomes highly susceptible to infection resulting in quick onset pneumonia.

- It is the lack of oxygen exchange and pneumonia that are the main cause of death.

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Precautions are necessary to reduce the burden on the health care system and avoid resurgence

Slowing the progression reduces the burden on the healthcare system. The aim is to progress to "herd immunity".

Failure to manage the disease progression will result in an increased likely hood of a second phase of the disease, or resurgence.
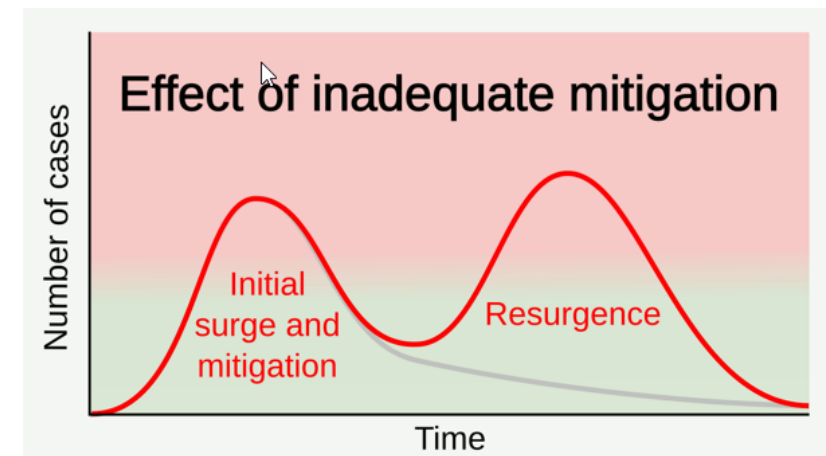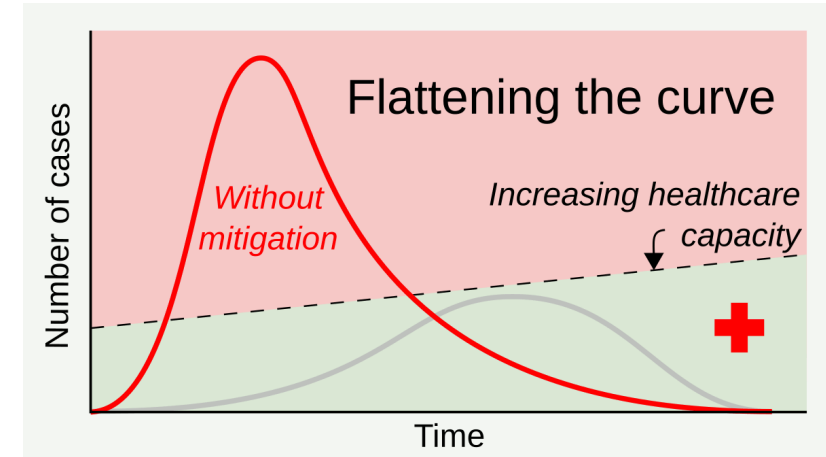
Graphs courtesy of: RCraig09 - Own work, CC BY-SA 4.0

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Content

1   **Getting back to practice: Patient and dental team confidence**

2   Management of the practice and clinical operations

3   Stages of alert and return to "new Normal"

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Getting back to practice:
Confidence

Patient and dental team confidence:

- A significant factor in return to work will be **patient and dental team confidence and reassurance**.

- Communicating with patients **cannot be underestimated**, and a consistent message should be constructed and then sent including:

  1. What the clinic is doing to prevent transmission and protect the patients

  2. An understanding on Covid -19 to avoid misinformation.

- Increasing adoption of **Telemedicine**, remote consultation and online **channels** should be taken into account. (Refer to POV Bounce-back. Learnings from China vs7)

Patient journey:

- Consideration should be given to the design of the patient journey including remote diagnostics and pre-visit triage measures and protocols as well as patient information inside the clinics

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Patient confidence: Communication on Infection Control and Prevention - Chinese Example

Before the opening hours   **Pre-treatment stage**   **Treatment stage**   **Post-treatment stage**   **After the opening hours**

During COVID-19, clinics actively resumed work, but due to the requirements of the national health department and the consideration of patient safety, clinics took strict preventive measures, which **greatly reduced the ability of the clinic to receive patients.**

Clinics did their best to **let patients know that the clinic has made a full range of preparations to ensure the safety of patients** through a series of new media promotion forms, giving patients a safe treatment environment.

Source: STRMN China DSO survey March 2020

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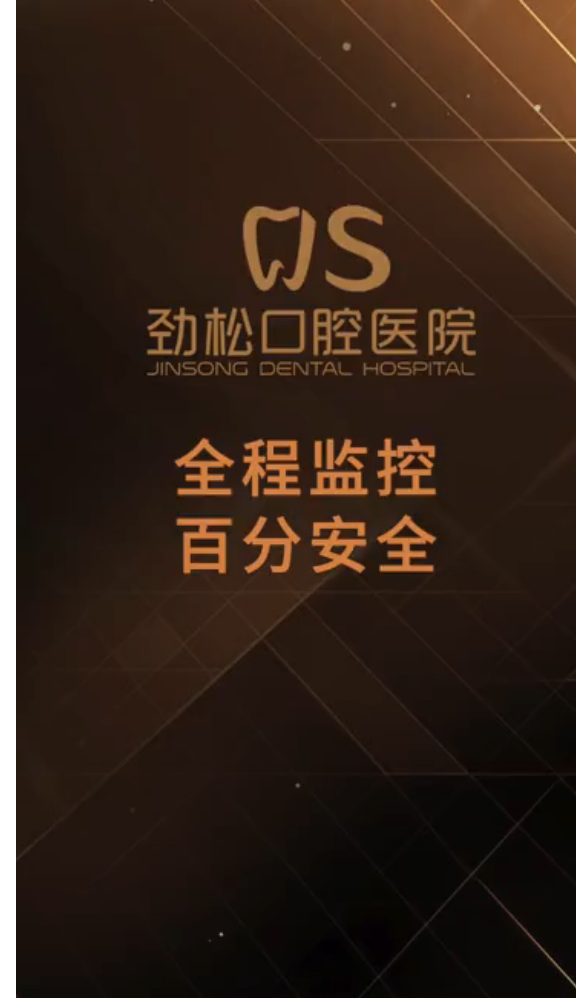
Dental team confidence: People safety first, leadership, clear guidelines, harmonized workflows

- Focus on people safety needs to be first priority in dental practices

- Assurance of dental team confidence is a key concern of DSO management*

Leadership

- Role modeling of DSO management and practice managers
- Link staff protection and infection Control measures to values and operating principles

Guidelines

- Monitoring of dental staff health
- Clear guidelines on staff protection and infection control measures and protocols
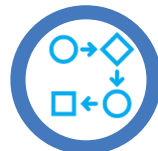
Workflows

- Harmonization of workflows as a basis to implement and manage infection control guidelines in the DSO clinic network

Training

- Coaching and regular dental staff trainings addressing knowledge, skills as well as attitudes and believes related to infection control

*: Straumann Group DSO Medical Director Pulse-Check Apr 6-11, 2020

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Patient and dental team confidence:
Understanding of Covid-19 (avoid misinformation)

What is COVID-19?

- Coronavirus disease (COVID-19) is caused by an infectious agent of viral pneumonia, recognized as a novel coronavirus (SARS-CoV-2)
- Coronaviruses are enveloped RNA viruses that belong to the Coronaviridae family.

What are symptoms of COVID-19?

- Common: fever, tiredness, and dry cough.
- Some patients: Aches, pains, runny nose, nasal congestion, sore throat, diarrhea.
- Severe cases: pneumonia, severe acute respiratory syndrome, sometimes death.
- NOTE: Some patients have no symptoms

How is COVID-19 transmitted?

- Primary transmission between people: respiratory droplets and contact routes
- Direct contact with infected people
- Indirect contact with surfaces in the immediate environment
- Objects used on infected person
- Airborne transmission may be possible: specific circumstances through procedures that generate aerosols
- The disease could be transmitted directly or indirectly through saliva

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Patient journey: Remote diagnostics, triage measures and protocols

- Telemedicine - becoming more prominent with Covid-19* - offers opportunities to perform remote and online diagnostics.

- Pre-appointment on-line medical questionnaires for MH update should be considered (report on patient Covid-19 status) as well as on-line video/ telephone triage

- Last triage may take place in the clinic building or even outside the clinic building

Telemedicine

- Possible applications may include**:
  o Real time interaction dentist/patient («videoconferencing)
  o Record forwarding (e.g. web-based)
  o Remote Patient Monitoring
  o Mobile Health (mobile devices for education, information sharing, monitoring)

Last triage in clinic area

- Controlled entrance to the clinic
- Consider last triage in clinic area for review of symptoms, which can involve thermal camera

*For examples from China, please refer to the Straumann Group point of view: «BounceBack Success - The path to the "next normal": Learnings from China
**Glassman P. Improving Oral Health Using Telehealth-Connected Teams and the Virtual Dental Home System of Care: Program and Policy Considerations. 2019.

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Telemedicine has taken a significant surge and is also gaining ADA and insurance endorsement

Teledentistry
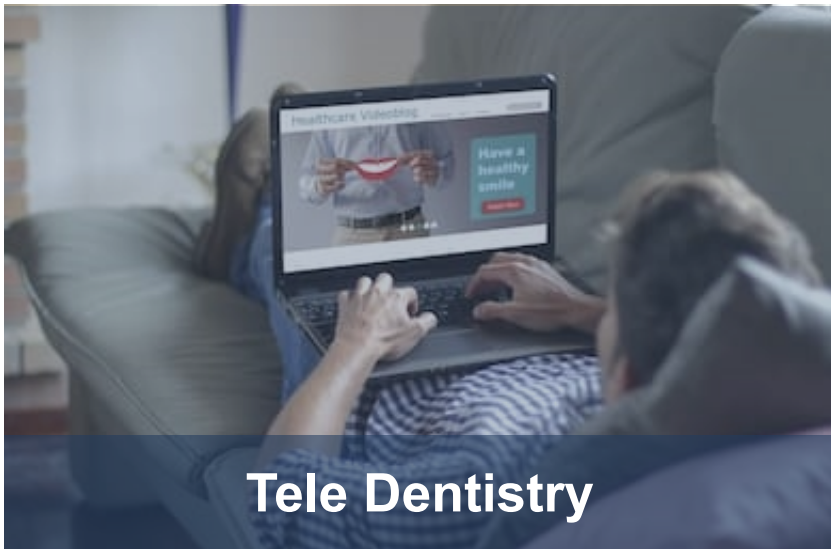
Tele Dentistry

COVID-19 Has led to a review of tele dentistry guidelines in the USA that results in significant opportunities for dentists post-COVID

- Clear guidelines as to how dentists can offer tele dentistry
- ADA codes that can be used (specifically D0140)
- Confirmation from insurance companies that they will cover tele dentistry as "Limited Exam".
- Confirming the dental offices can add the two new ADA codes for tele dentistry on top of the Limited Exam
- The confirmation that tele dentistry can be offered to all patients and not just as a gatekeeper during Corona virus era for detecting emergency cases.

Recent changes also allow Telehealth services to be performed anywhere in the country, where previously the physician had to be licensed in the state where the patient was receiving care lived

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Patient journey:
Pre-Appointment Triage (Example)

Confirm patient details	Confirmation of Covid-19 related status
Obtain consent to call / video call	• Has the patient had Covid -19
MH record / update	• No Temperature (not contact with 3rd party with symptoms in the last 21 days)
Nature of appointment: • Emergency • Routine • Continuation • New treatment	• No Cough • No "other symptoms"- see symptoms • Identification of group status (e.g. vulnerable or shielding)

Communication may include Telemedicine

Videoconferencing   Data exchange   Remote Monitoring   Mobile Health

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Patient journey: Patient communication and visible infection control inside the clinic

- Communication in the practice should be very clear

- Display of patient information on infection control measures and patient requirements: main entrance, reception and waiting area

- Reception, waiting area and clinic may wish to consider air filtration (HEPA – 3-micron filters)

Considerations on patient engagement in infection control and visible measures

✓ Hand dispensers at reception and in waiting area

✓ Consider requiring patients to wear a mask on entering the clinic and during their time in the clinic, only to be removed when with the dentist

✓ Screens at reception or visible additional protection for receptionists

✓ Staff wearing additional protective items

✓ Receptionist equipped with temperature camera (recommended). Any patient with raised temperature to be re-scheduled

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Practice and practice schedule management
"diary management"

- Ideally, staff treating patients in the clinic should be tested, ideal workers should have antibodies i.e. have had Covid-19.

- Diary management should be implemented:

  o Block sessions of non-aerosol / reduced risk generating appointments

  o Specific attention to people that are more likely to develop serious illness: older people, people with underlying medical problems, e.g. high blood pressure, heart problems, diabetes)

Considerations diary management

✓ Staggered appointment times: minimize congestion in the practice

✓ First appointment of the day: compromised patients (age, medical condition).

✓ End of day or specific session for higher risk patients: cleaning time, add. PPE, aspirator removal or control using high volume external aspirator. Staff with add. protective items

✓ Splitting dental team/ shift pattern: extend work hours reducing number of patients at one time, reduce whole team risk exposure

✓ Covid-19 positive patient emergency slots: end of day only, full PPE or referral to EDC.

Waiting room set-up and policies

- All magazines and all non-essential material should be removed, including drinks dispensers. The only item should be the chairs.

- Posters that are framed can be retained on the walls but all items on the wall and surfaces should be capable of being cleaned with surface wipes.

- Waiting area should be scheduled for regular cleaning throughout the day including chairs and floor.

- Patient escorts should be asked to wait outside the building wherever possible. Access to the clinic is for active patients only.

- In the case of orthodontic treatment, consent is to be obtained at reception and the parent or guardian asked to wait outside.

- Video consultations may be set up for another time should a parent or guardian wish to discuss their child's treatment with the orthodontist.

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Management of the clinic room and cleaning protocols

- All items not immediately required in a clinical room should be removed, a very minimalist approach should be considered sensible.

- Surfaces should be wipe clean and un-cluttered. Clinic rooms can be cluttered with papers and other items, all these items should be removed

- Single use items should be used wherever possible.

- All team members should wash hands at regular intervals and in accordance with guideline

- Cleaning protocols can be considered and monitored:
  - All surfaces should be wiped between each appointment
  - Surgery floor should be cleaned at the beginning of the session, middle of the day and at the end of the day.
  - High and low volume aspiration units attached to dental unit should be cleaned using a cleaning fluid between patients when the equipment has been used
  - Waste management to be considered with an increase in disposable products

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Clinic room equipment supporting infection control and air quality

Containment: High volume external aspirator units	Air quality management: HEPA™ filter air filtration units
■ High volume external aspirator units should be given serious consideration. ■ If the aerosol generated by the patient is "contained", the risk of infection is very significantly reduced. ■ Collection of the aerosol leads to a very significant reduction in air and surface contamination. (It also reassures the patient- a "step up" measure in infection management).	✓ HEPA™ filter air filtration units may be considered for clean air in the clinic, waiting area and reception. Filter size 3 micron or smaller.

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Protocols for clinic procedures and PPE

Clinical protocols	PPE

▪ When patient in surgery, access to surgery should be controlled (possibly sign on door "surgery occupied")
 	
▪ Rubber dam use should be considered as important in reducing field of exposure, aerosol load in the air and viral load of aerosol
 	
▪ Patients may be asked to rinse with hydrogen peroxide for 30 seconds prior to the commencement of treatment*
 	
▪ Work 4-handed
 	
▪ Extra oral radiography should be considered as an alternative to intra-oral where appropriate
	▪ Dentist and nurse should wear appropriate PPE:
	    • Fit tested FFP2 or FFP3 mask*
	    • Visor or goggles
	    • Gown and cap
	
	▪ No home clothes
	
	▪ Training to be given on the putting "on and off" of PPE equipment.
	
	▪ If the building layout permits, a separate room for putting on and removing PPE should be used

*There is a global shortage of FFP3 masks. FFP3 filter 99%. FFP2 filter at 94% or above N95 masks at 95% or above. The quality of FFP2 and N95 is important. Statistically FFP2 and N95 well made masks afford only a slightly lower level of protection than FFP3 and are more readily available particularly when used in conjunction with external oral aspirators.

*the science of this virus is developing quickly and more evidence will become available

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Digital workflows contribute to an optimization of infection control for staff and patients

Bacteria   Fungi   Viruses
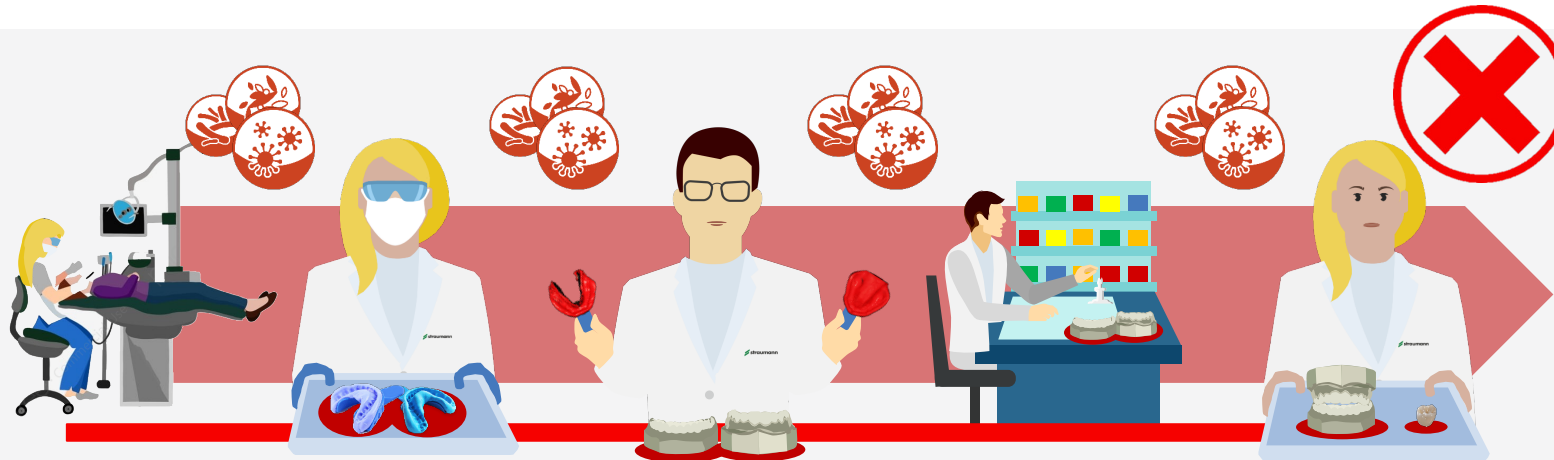
Analog impressions entail various biohazard risks for the dental practice staff, as well as lab technicians:

- Analogue impressions are covered with saliva and possibly blood - transfer of bacteria or viruses is possible

- Transport time to the lab allows time for bacteria and fungi to develop

- Transfer of microorganisms onto the plaster models is possible

- Multiple touchpoints with analog impressions means more risk of contamination
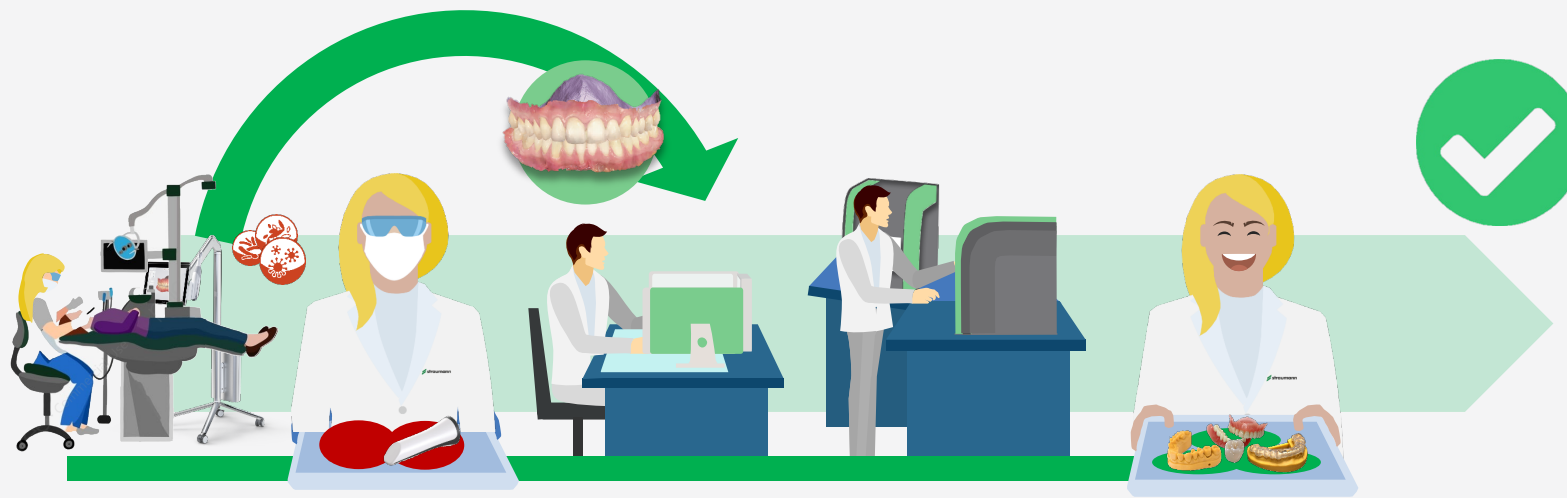
Use of digital impressions means higher biosafety and staff protection

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Laboratory partner requirements

- Laboratory work should be rinsed and disinfected prior to collection by the laboratory.

- Laboratories should sterilize work to be returned and seal in sterile bags (not commonly done at this time).

- Prosthetic work which cannot be sterilized should be disinfected at the laboratory, sealed and sent to the clinic.

- The clinic should re-disinfect prosthetic work before insertion into the patients mouth.

- Laboratories may use Ozone to disinfect items that may not be autoclaved. Ozone generators for laboratory use are low cost / inexpensive.

Consider promotion of this workflow in the form of poster in the waiting room confirming a commitment to excellence may assist confidence

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Different stages of "states of alert" for dental practices

Possible scenarios impacting patient communication and engagement, waiting and clinic room policies and management

STAGE	1	Opening the clinics immediately post relaxation of regulations, stabilization care for high risk groups
STAGE	2	Relaxation of strict regulations, social distancing maintained with herd immunity levels increasing and with the pressure reducing on the medical services, stabilization care for high risk groups
STAGE	3	Social distancing relaxed, social meetings allowed but mass meeting places still restricted. Vaccination programme advancing, herd immunity further increasing, routine and advanced care for high risk groups
STAGE	4	Restaurants and bars opened Vaccine established. Herd immunity high. Hospitals "normal", routine and advanced care for high risk groups

The state of alert will be dictated by public health guidelines locally and by national regulators

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Stage 1

Pre-reception

- Medical questionnaire / update
- General health- clarification on status
- Covid-19 Status (antibodies confirmed?)
- Note on treatment desired / requested/ continued
- If required send information on any point of enquiry (whitening, implant etc)
- Impart information on how clinic is working etc.

Waiting room

- Avoid use if possible
- Minimal set up- remove all magazines, drinks dispensers etc. Very basic easy clean.
- Hand sanitiser
- Air filter
- "Air Misting" disinfection (optional)
- No air conditioner use
- Cleaning rota including floor and surfaces.

Exit

- Exit of patient protocol and clean down procedure including suction system disinfection (simple)
- Next appointment made in the clinical room to avoid unnecessary congestion at reception

Arrival

- Stagger appointments
- Hand sanitiser
- Temperature using camera
- Mask for patient
- Perspex screen for staff protection
- Verbally confirm receipt of data received via triage process day before.
- Referral **directly** into the clinical room (avoid waiting room)
- Email treatment plans, Avoid paper
- Paperless including paperless payment. Email receipts.
- No air conditioner use.

Clinical Room

- Wiped clean surfaces
- Floor cleaning rota
- PPE use by clinician and nurse
- Training on taking "on and off" PPE
- Door sign to prevent entry when occupied
- Consider increase in waste management
- High volume external aspiration to reduce clinician and clinic surface contamination
- Air filtration
- No paper notes.
- Laboratory work disinfection protocol

End of session/End of Day

- Clinic disinfection protocol
- Seperate room required for donning and doffing PPE.

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Stage 2

Pre-reception

- Medical questionnaire / update
- General health- clarification on status
- Covid-19 Status (antibodies confirmed?)
- Note on treatment desired / requested/ continued
- If required send information on any point of enquiry (whitening, implant etc)
- Impart information on how clinic is working etc.

Waiting room

- Minimal set up
- Hand sanitiser
- Air filter
- "Air Misting" disinfection (Optional)
- No air conditioner use
- Cleaning rota including floor and surfaces.

Exit

- Standard clean down procedure including suction system disinfection (simple)
- Next appointment made in the clinical room to avoid unnecessary congestion at reception

Arrival

- Hand sanitiser
- Perspex screen for staff protection
- Sent to waiting room
- Verbally Confirm receipt of data received via triage process day before.
- Email treatment plans, Avoid paper
- Paperless including paperless payment. Email receipts.
- No air conditioner use

Clinical Room

- Wiped clean surfaces
- Floor cleaning rota
- FFP2 or N95 masks, goggles or visor (full use of high-volume aspiration (HVA) may result in simple mask use earlier)
- Door sign to prevent entry when occupied
- High volume external aspiration to reduce clinician and clinic surface contamination
- Air filtration
- No paper notes.
- Laboratory work disinfection protocol

End of session/End of Day

- Clinical disinfection Protocol
- Seperate room required for donning and doffing PPE.

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Stage 3

Pre-reception

- Medical questionnaire / update
- General health- clarification on status
- Covid-19 Status (antibodies confirmed?)
- Note on treatment desired / requested/ continued
- If required send information on any point of enquiry (whitening, implant etc)
- Impart information on how clinic is working etc.

Waiting room

- Standard set up
- Air filter
- Air conditioner use

Exit

- Standard clean down procedure
- Next appointment made at reception (or as previous)

Arrival

- Registration
- Perspex screen for staff protection
- Sent to waiting room
- Email treatment plans, Avoid paper
- Paperless including paperless payment. Email receipts.
- Air conditioner use

Clinical Room

- Wiped clean surfaces
- FFP2 or N95 masks, goggles or visor (full use of high-volume aspiration (HVA) may result in the use of simple masks earlier)
- High volume external aspiration to reduce clinician and clinic surface contamination
- Air filtration
- No paper notes.
- Laboratory work disinfection protocol

End of session/End of Day

- Clinical Disinfection Protocol
- Seperate room required for donning and doffing PPE.

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Stage 4

Pre-reception

- Medical questionnaire / update
- General health- clarification on status
- Covid-19 Status (antibodies confirmed?)
- Note on treatment desired / requested/ continued
- If required send information on any point of enquiry (whitening, implant etc)
- Impart information on how clinic is working etc.

Waiting room

- Standard set up
- Air filter
- Air conditioner use

Exit

- Standard clean down procedure between patients
- Next appointment at reception

Arrival

- Registration
- Sent to waiting room
- Email treatment plans, Avoid paper
- Paperless including paperless payment. Email receipts.
- Air conditioner use

Clinical Room

- Pre-Covid-19 protocols
- Standard dental masks
- High volume external aspiration to reduce clinician and clinic surface contamination on selected procedures
- Air filtration
- No paper notes.
- Laboratory work disinfection protocol

End of session/End of Day

- Clinical Disinfection Protocol

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What could the new Normal look like?

Telemedicine

- Online diagnostics – likely
- Video consultations (with non dentist) – likely to remain
- Pre-screening ahead of appointment, incl. on-line updates on MH, etc. – likely

PPE

- Standard dental masks, glasses and tunics – likely
- No gowns or additional PPE (but also no home clothes)

Air quality management

- Continued use of high-volume aspiration (HVA) for treatment intervention (fillings and active treatment) as opposed to recalls and check-ups
- Maintain use of air filters for a generally cleaner more hygienic clinical environment.
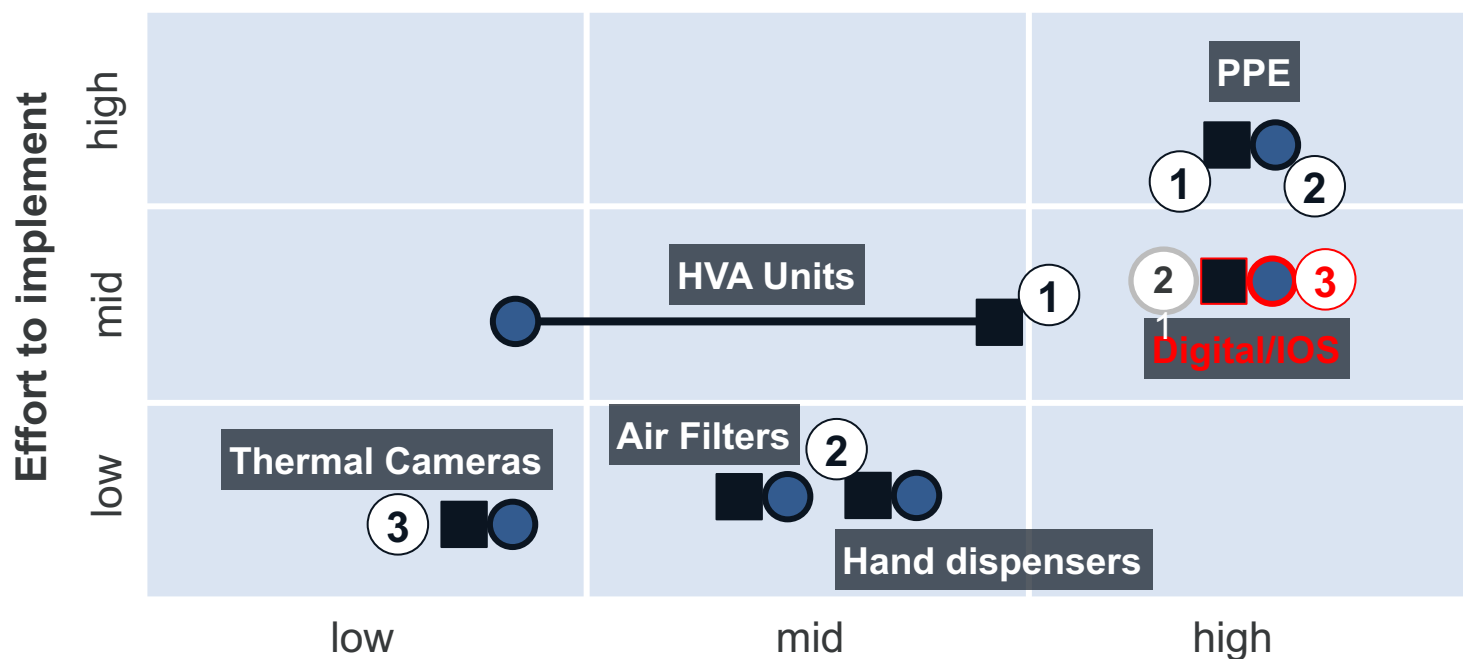- Continued use of air filtration

Diary Management

- New diary management for efficiency (zones) – likely

Clinic protocols

- Waiting room and clinic rooms "back to normal" layout ? – unclear
- Minimalist approach in all areas – considered sensible
- Intra-oral radiographs – likely
- Improved routine cleaning/ disinfection processes – likely

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There is a requirement for {My}Dentist to evaluate and mitigate the economic impact of required measures

Evaluation of effort and (perceived) benefit/risk reduction (example)

Effort to implement (y-axis: low, mid, high)

Reduction of (perceived) risk: Benefit assessment patient & staff (x-axis: low, mid, high)

- PPE (high effort, high risk reduction) — markers 1, 2
- HVA Units (mid effort) — marker 1
- Digital/IOS (mid effort, high risk reduction) — markers 2, 1, 3
- Thermal Cameras (low effort, low risk reduction) — marker 3
- Air Filters (low effort, mid risk reduction) — marker 2
- Hand dispensers (low effort, mid risk reduction)

Legend:
- ■ (Perceived) benefit dentist, risk assessment
- ● (Perceived) patient benefit, risk assessment

Cost sharing scenarios DSO (example)

1. Emphasize cost sharing with freelance clinicians
2. Evaluate patients' price elasticity for high clinical hygiene standards
3. Compensate with productivity/efficiency gains

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Be safe!

xyz

For updates Visit:
https://www.straumann.com/group/en/discover/covid19/business-continuity/dso-insights.html