Civilization 人文
Service 服務
Outstanding 卓越
Morality 倫理

Oral care for bedridden patients

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Domiciliary Dentistry

http://moocs.csmu.edu.tw/course/169/intro

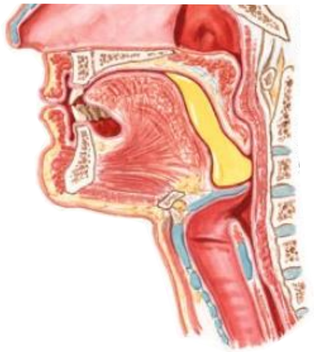
Disclosure

Neither I nor members of my immediate family have any financial relationships with commercial entities that may be relevant to this presentation.

Three elements of Oral Healthcare

- Toothbrush
- Interdental brush
- Dental floss

- Mastication
- Swallowing



- Tongue brush
- Oral sponge brush
- Oral wet tissue
- Oral moisturizing gel

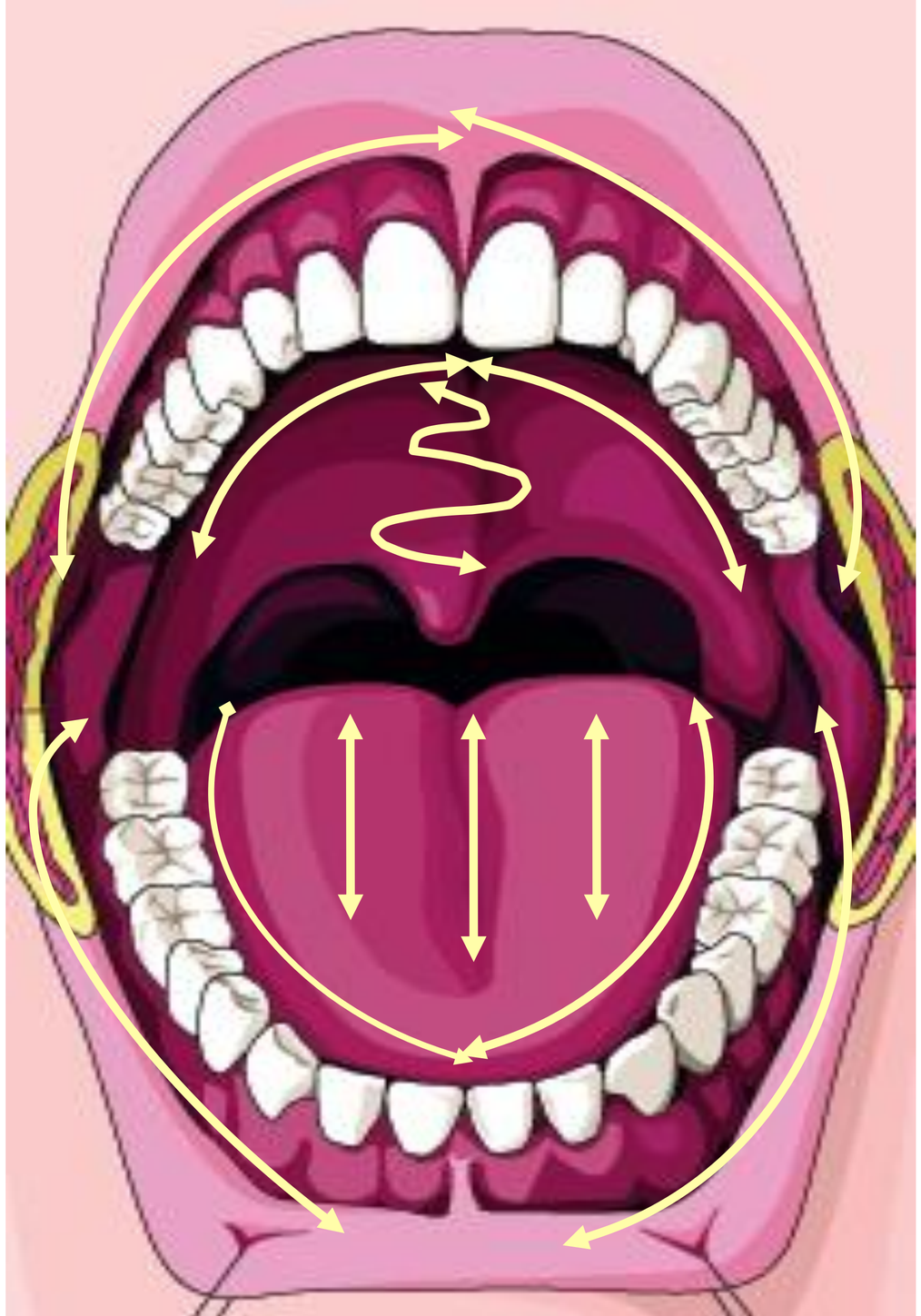
Oral hygiene

Oral function

Oral environment

Mouth cleaning

- Impact on health
- Patient’s body posture
- Desensitize massage
- Tools and methods



Nursing home acquired pneumonia

Risk factors of pneumonia

1. **Inadequate oral care**
2. **Difficulty in swallowing**
3. Lack of influenza vaccination
4. Depression
5. Feeding position of less than 90 degree from horizontal
6. Active smoking
7. Receipt of sedative medication
8. Receipt of gastric acid-reducing medication
9. Use of ACE inhibitors

Quagliarello V, et al. *Clin Infect Dis*, 2005

年齡別五大死因

順位	0歲		1-14歲		15-24歲		25-44歲		45-64歲		65歲以上	
	死亡原因	死亡率(每十萬活產)	死亡原因	死亡率(每十萬人口)	死亡原因	死亡率(每十萬人口)	死亡原因	死亡率(每十萬人口)	死亡原因	死亡率(每十萬人口)	死亡原因	死亡率(每十萬人口)
	所有死亡原因	363.3	所有死亡原因	11.6	所有死亡原因	41.4	所有死亡原因	103.7	所有死亡原因	519.9	所有死亡原因	3,431.8
1	先天性畸形、變形及染色體異常	65.1	事故傷害					25.8	癌症	223.1	癌症	876.0
2	與妊娠長短及胎兒生長有關的疾患	49.0	癌症		蓄意自我傷害(自殺)		蓄意自我傷害(自殺)	25.0	心臟疾病(高血壓性疾病除外)	54.5	心臟疾病(高血壓性疾病除外)	427.5
3	源於周產期的呼吸性疾患	47.1	先天性畸形變形及染色體異常	1.1	癌症	3.7	事故傷害	14.3	腦血管疾病	29.7	肺炎	339.6
4	事故傷害	24.2	心臟疾病(高血壓性疾病除外)	0.9	心臟疾病(高血壓性疾病除外)	1.2	心臟疾病(高血壓性疾病除外)					
5	特發於周產期的感染	18.0	蓄意自我傷害(自殺)	0.7	腦血管疾病	0.6	慢性肝及肝硬					

65歲以上老年人死亡人數，肺炎為第三位

5-15% of all community-acquired pneumonias are **AP**

Komiya K, et al. *Aging Dis*, 2016

衛生福利部民國109年死因統計結果分析，2021/06/18

65歲以上人口主要死因

順位	Young 65-74歲 old		Mid- 75-84歲 old		Oldest85歲以上 old	
	死亡原因	死亡率(每十萬人口)	死亡原因	死亡率(每十萬人口)	死亡原因	死亡率(每十萬人口)
	所有死亡原因	1,392.0	所有死亡原因	4,188.8	所有死亡原因	13,060.9
1	癌症	557.2	癌症	1,155.3	癌症	1,962.8
2	心臟疾病(高血壓性疾病除外)	147.8	心臟疾病(高血壓性疾病除外)	483.8	心臟疾病(高血壓性疾病除外)	1,871.2
3	糖尿病	93.1	肺炎	366.9	肺炎	1,795.1
4	腦血管疾病	89.7	腦血管疾病	335.4	腦血管疾病	975.9
5	肺炎	71.1	糖尿病	315.7	高血壓性疾病	754.9
6	事故傷害	56.4	慢性下呼吸道疾病	174.6	糖尿病	752.4
7	高血壓性疾病	41.9	高血壓性疾病	161.3	慢性下呼吸道疾病	677.8
8	腎炎、腎病症候群及腎病變	39.4	腎炎、腎病症候群及腎病變	152.5	血管性及未明示之癡呆症	491.5
9	慢性下呼吸道疾病	32.4	事故傷害	115.3	腎炎、腎病症候群及腎病變	474.4
10	慢性肝病及肝硬化	28.9	血管性及未明示之癡呆症	69.1	衰老/老邁	458.8

衛生福利部民國109年死因統計結果分析，2021/06/18

Table I Causes and risk factors of aspiration pneumonia

Causes	Risk factors
Impaired consciousness	Drug or alcohol abuse, general anesthesia, seizures, sedation, acute stroke and other brain lesions, head injury
Age-associated	Increasing age, polypharmacy, functional decline, poor mobility
Swallowing disorders	Esophageal stricture, esophageal diverticula, gastro-esophageal reflux, oropharyngeal dysphagia in multiple diseases
Iatrogenic	Adverse drug effects, adverse effects of medical treatment
Others	COPD, male sex, tracheostomy, tracheo-esophageal fistula, ventilator-associated pneumonia, periodontal disease

Wirth R, et al. *Clin Interv Aging,* 2016

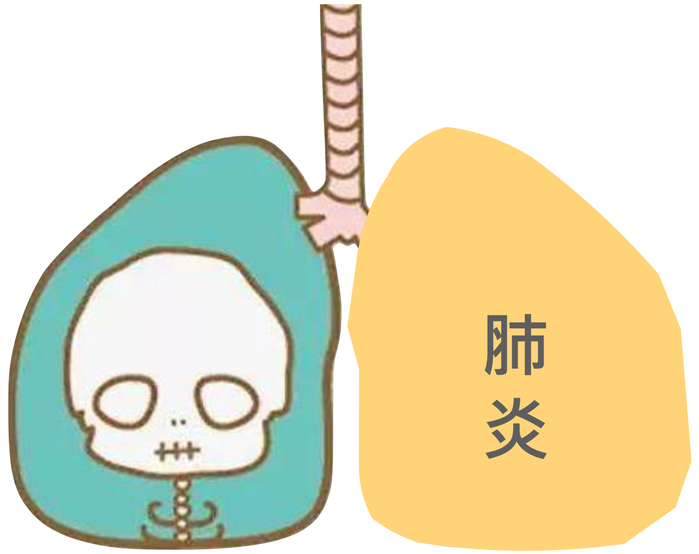
STROKE → **Risk of Pneumonia**

＋Dysphagia - ↑3

＋Aspiration - ↑11

Martino R, et al. *Stroke,* 2005

65歲以上老年人死亡人數，肺炎為第三位



https://itw01.com/Q338SEP.html

Aspiration pneumonia is the **leading cause of death** and the second most common cause for hospitalization among nursing home patients.

Table 1. *Comparison of Microorganisms of the Oral Cavity and Known Respiratory Pathogens*[1,3,6,21-23]

Physiologic Oral Microflora	Oral Microflora Associated with Oral Disease	Respiratory Pathogens
*Staphylococcus aureus**	*Staphylococcus aureus**	*Staphylococcus aureus**
Candida albicans	*Haemophilus influenzae**	*Haemophilus influenzae**
Streptococcus sobrinus	*Actinomyces* species*	*Actinomyces* species*
Streptococcus mutans	*Peptostreptococcus**	*Peptostreptococcus**
Streptococcal species	*Streptococcus mutans*	*Fusobacterium nucleatum**
Streptoccocus sanguis	*Ca*	
	Ps	
	Porphyromonas gingivalis	
	Staphylcoccus aureus	*Bifidobacterium* species*
	Neisseria species	*Proteus mirabilis*
	Streptococcus milleri	*Haemophilus parainfluenzae*
	Lactobacillus species	*Klebsiella pneumoniae*
	Bacteriodes forsythus	*Streptococcus pyogenes*
	Prevotella intermedia	*Pseudomonas aeruginosa*
	Prevotella melaningenica	*Escherichia coli*
	Facultative anaerobes	*Streptococcus pneumoniae*
	Klebsiella pneumoniae	
	Pseudomonas aeruginosa	
	Enterobacter cloacae	

Certain oral microflora are responsible for AP

* Pathogens implicated in aspiration pneumonia.

Sarin J, et al. *J Am Med Dir Assoc*, 2008

Oral Care Reduces Pneumonia in Older Patients in Nursing Homes

Takeyoshi Yoneyama, DDS, PhD, Mitsuyoshi Yoshida, DDS, PhD, Takashi Ohrui, MD, PhD, Hideki Mukaiyama, DDS, Hiroshi Okamoto, DDS, PhD, Kanji Hoshiba, DDS, PhD, Shinichi Ihara, DDS, Shozo Yanagisawa, DDS, Shiro Ariumi, DDS, Tomonori Morita, DDS, Yasuro Mizuno, DDS, Takayuki Ohsawa, DDS, PhD, Yasumasa Akagawa, DDS, PhD, Kenji Hashimoto, DDS, MD, PhD, Hidetada Sasaki, MD, PhD, and Members of the Oral Care Working Group

Oral care reduces pneumonia

Table 4. Comparisons Between Oral Care and No Oral Care Groups in Dentate and Edentate Patients

Patients	Group	Number of Patients	Age, Years, mean ± SD	F/M	ADLs at Baseline, mean ± SD	MMSE at Baseline, mean ± SD	Number of Patients with Fever (%)	Number of Patients with Pneumonia (%)	Number of Patients Dying (%)
Dentate	Oral care	109	79.9 ± 7.9	82/27	17.1 ± 6.3	14.8 ± 8.5	13** (11)	12** (9)	8* (6)
	No oral care	99	79.3 ± 7.6	80/19	16.7 ± 6.8	15.3 ± 9.9	26 (26)	19 (21)	20 (20)
Edentate	Oral care	75	84.3 ± 7.4	63/12	15.8 ± 6.5	12.7 ± 7.8	14* (18)	9 (9)	6 (7)
	No oral care	83	84.9 ± 7.1	68/15	16.0 ± 6.9	12.4 ± 9.2	28 (34)	15 (20)	10 (13)

*$P < .05$ and **$P < .01$ show significant differences between groups with oral care and no oral care.
SD = standard deviation; F/M = female/male; ADLs = activities of daily living; MMSE = Mini-Mental State Examination.

Yoneyama T, et al. *J Am Geriatr Soc*, 2002

Oral care reduces pneumonia

Table 2 Effectiveness of oral care in reducing risk of pneumonia in nursing home residents

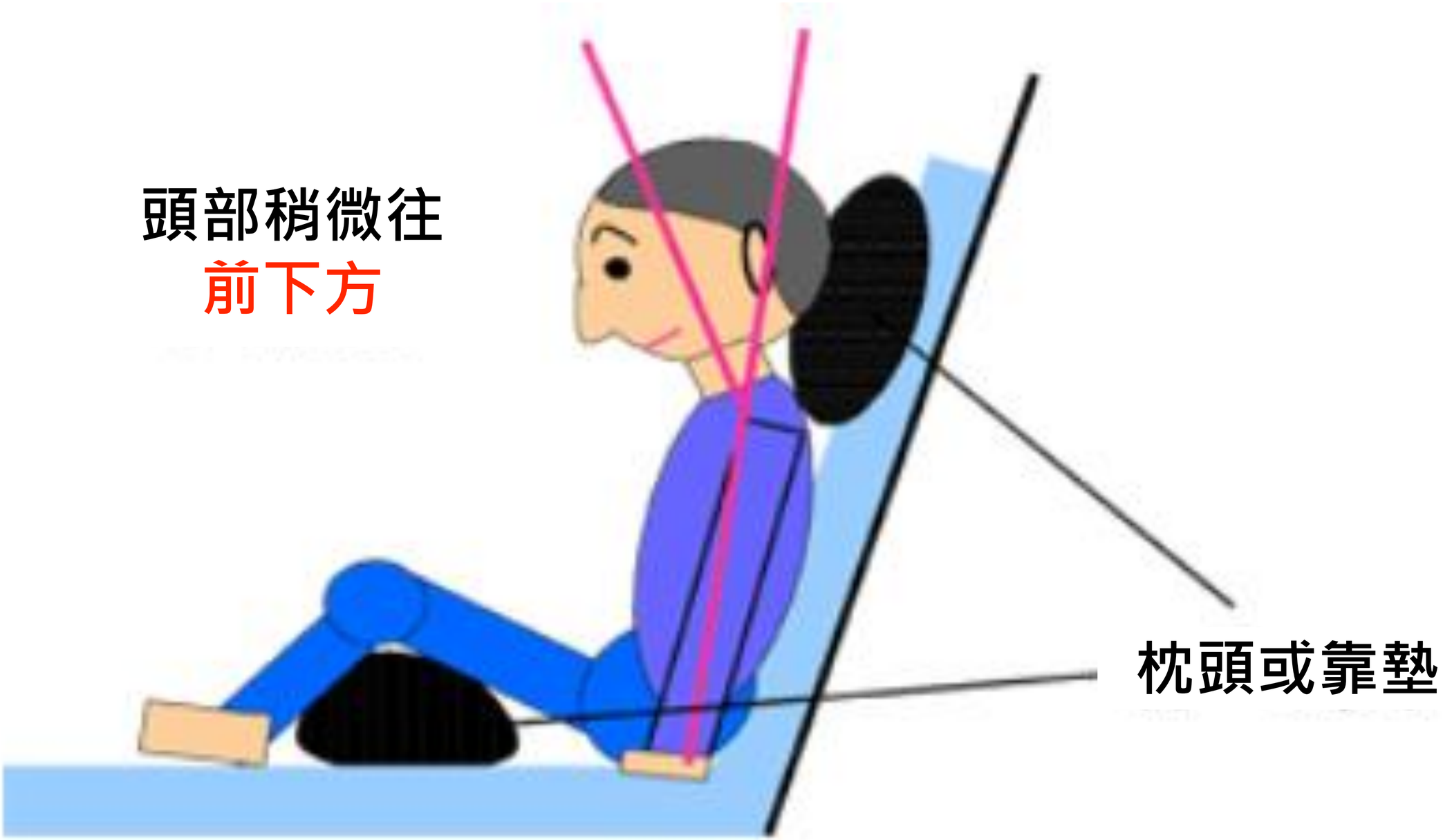
Ref.	Population	Design	Intervention	Outcomes
Yoneyama et al. [42] **2002, Japan**	417 NH residents	Randomized controlled trial over 2-year period	Daily tooth brushing plus scrubbing of pharynx with povidone iodine 1% (including professional care once a week) vs. routine oral care	RR of developing pneumonia 1.67 in the group on no oral care compared with oral care ($p = 0.04$)
Simons et al. [59] **2002, UK**	111 dentate elderly	Double-blind, randomized controlled trial over 12-month period	CHX/xylitol gum vs. xylitol (X) gum vs. no gum	Significant reduction in denture debris, stomatitis, and cheilitis in CHX/X and X groups compared to no gum
Ueda et al. [49] **2003, Japan**	105 long-term-care residents	Prospective interventional study	Oral care intervention at intervals of 1, 2, 3, 4, and 6 weeks	Oral hygienic condition could be improved by performing oral care at intervals of 1 week for 12 consecutive weeks, and maintained at intervals of 1 week thereafter
Abe et al. [50] **2006, Japan**	190 elderly patients	Prospective, randomized for 6 months	Weekly professional oral care versus self oral care	RR of developing influenza while under professional oral care compared to that in the control group was 0.1 (95% CI 0.01-0.81, $p = 0.008$)
Adachi et al. [62] **2007, Japan**	216 NH residents	Prospective interventional study over 24 months	Daily routine oral care plus either mechanical cleaning weekly vs. basic oral hygiene (swabbing and denture cleaning)	Fatal aspiration pneumonia (RR = 2.67; $p < 0.5$) higher in those who did not receive professional oral care compared to interventional group
Ishikawa et al. [63] **2008, Japan**	202 NH residents	Prospective interventional study over 5-month period	Professional oral care weekly vs. gargling with 0.35% povidone iodine daily vs. no professional care	Professional oral care decreased burden of oropharyngeal bacteria and was more effective than gargling with povidone iodine
Bassim et al. [29] **2008, US**	143 NH residents	Retrospective review up to 79 weeks	Assisted oral hygiene (toothbrushing, antiseptic mouth wash) vs. no assisted oral care	Odds ratio for dying from pneumonia 3.57 higher in the control group than the oral hygiene group

NH nursing home, *CHX* chlorhexidine, *RR* relative risk

EI-Solh AA, et al. *Lung*, 2011

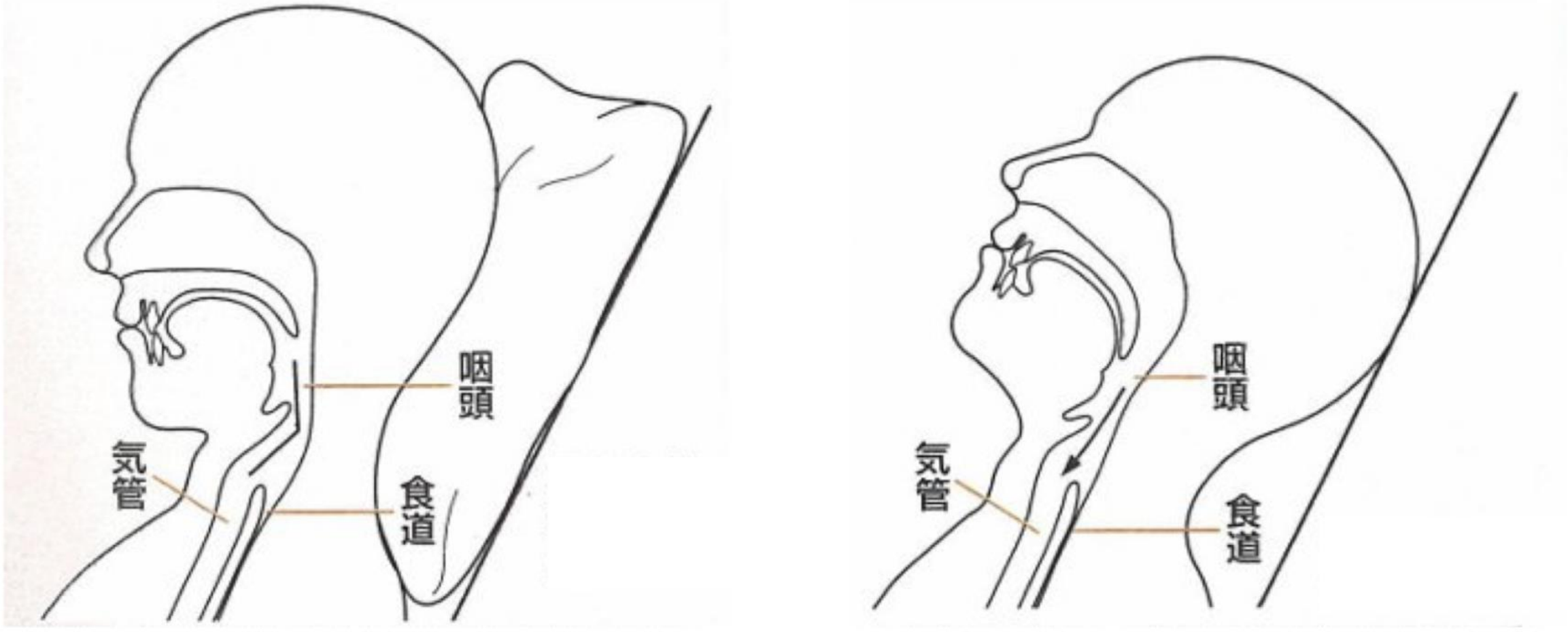
Body posture

頭部稍微往
前下方



枕頭或靠墊

Relations of **head position** and the **respiratory tract**



ー「完全図解 新しい介護」(三好春樹・大田仁史著　講談社刊)よりー

Assistance attitude in the case of the oral cavity care by the wheelchair


①


②


③


④

Position of the oral care for the **bedridden patients**

- at least 30º


2020


2020 [redacted]


2020

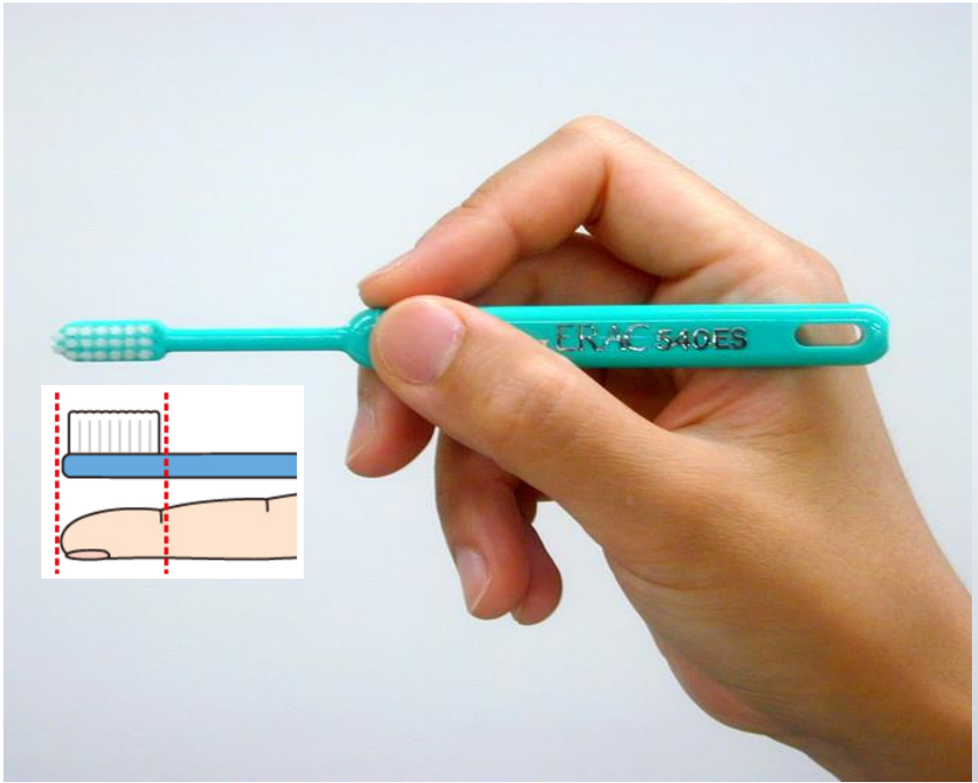
2020


2020

Pen grip

Palm grip

http://www.kokucare.jp/tooth/before/holding/

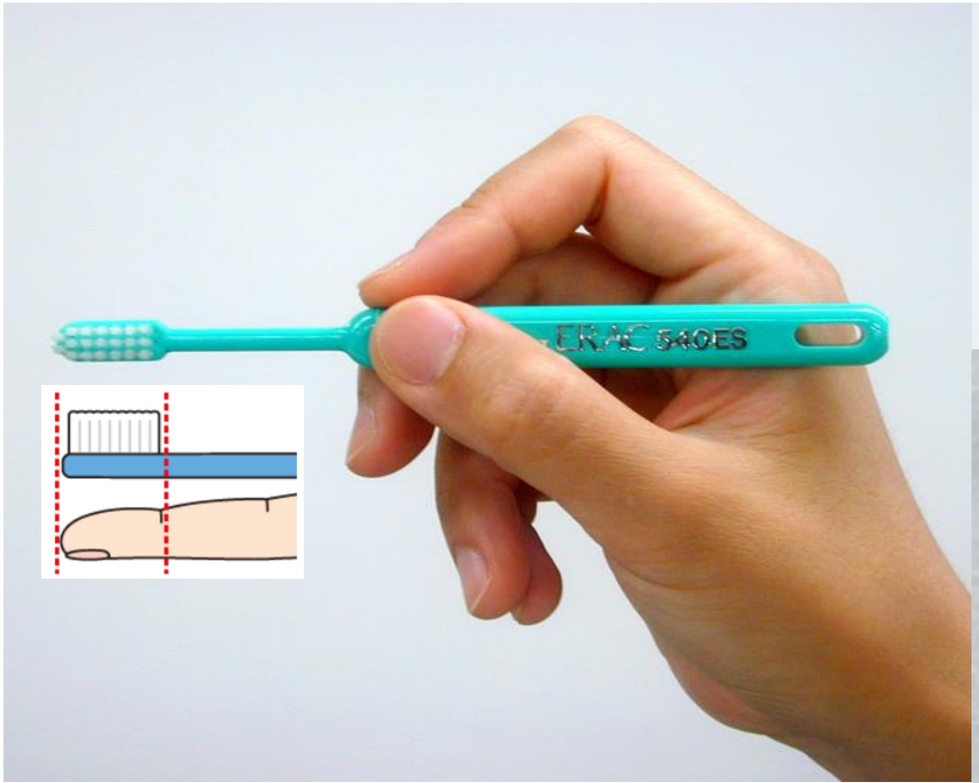


Pen grip

Palm grip

http://www.kokucare.jp/tooth/before/holding/

- 刷毛高度9mm，比一般牙刷高度較短
- 刷頭特小、毛刷特軟，毛面圓磨處理，不傷害牙齦
- 更可深入一般後臼齒區，可輔助張口不易者，輕鬆刷除牙菌斑
- 刷毛較短，刷毛不易變形，輕鬆照護每顆牙面




TANITA
0
100g
200
300
400
500
600
700
800
900
1000
1100
1200
1300
1400
1500
1600
1700
1800
1900
Let's cooking!
150 - 200 g

口腔護理產品介紹 ビバラック オーラルケアの使い方

Viva-Luck Oral Care

株式会社東京技研
Viva-Luck Oral Care

style1 吸引牙刷套裝 Viva-Luck PLUS

看護用口腔護理系統

增加了同時清潔和吸引功能,進行安全的口腔護理

吸引牙刷套裝/安裝圖例
尺寸:W15xD32xH24.7cm
電源:單向100V
重量:約3 kg

Tip1 牙科專用級 進行訪間診療或口腔護理,
可以依照患者的情況靈活使用

Tip2 輕鬆攜帶 實現了小型和輕量化,
可以隨身攜帶,為看護者帶來極大的方便

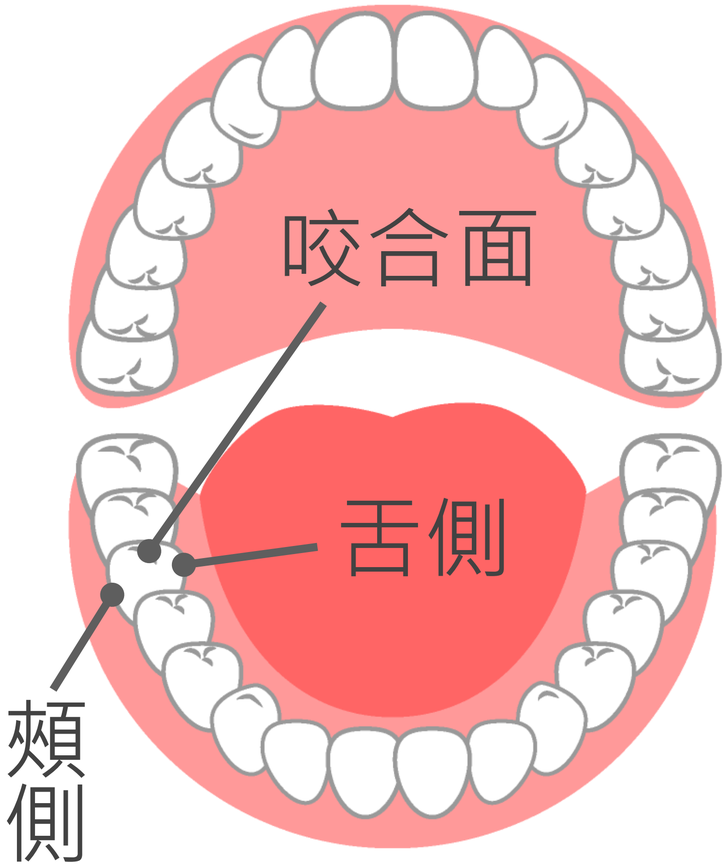
Tip3 提供給只需要吸引功能的看護者或患者,
一邊吸引累積或殘留在口腔內的水和唾液
一邊進行洗刷

Viva-Luck PLUS 基本配備 E560
本體、水分離機(約800ml)
吸引器固定架、吸引器
吸引器專用管、筆燈、清潔用刷

Viva-Luck PLUS 吸引牙刷套裝 E561
套裝內容:迷你牙刷x2(普通+軟式)
吸引牙刷用把手、吸引牙刷專用管
吸引牙刷用固定架

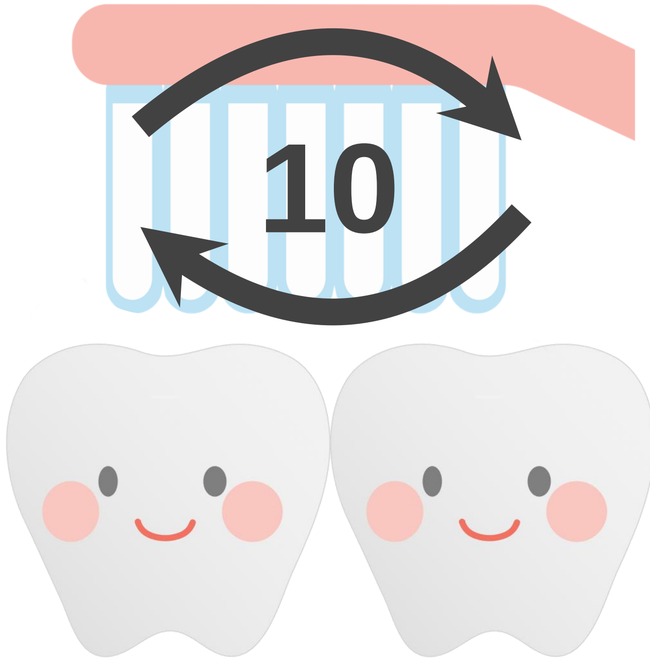

新店耕莘醫院 黎達明主任

貝氏刷牙 3-2-1



3 3面都要刷

2 2顆一起刷

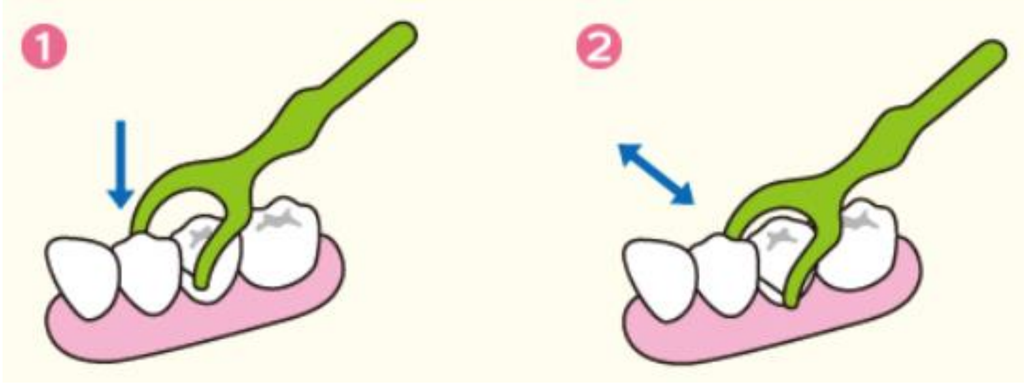


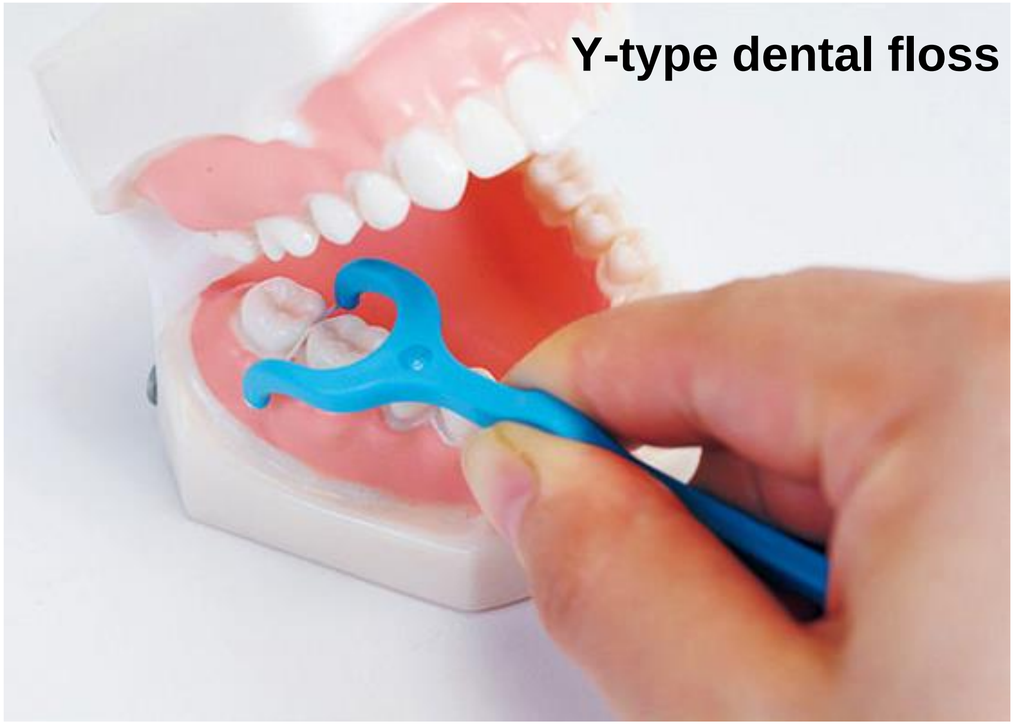
1 來回刷10下

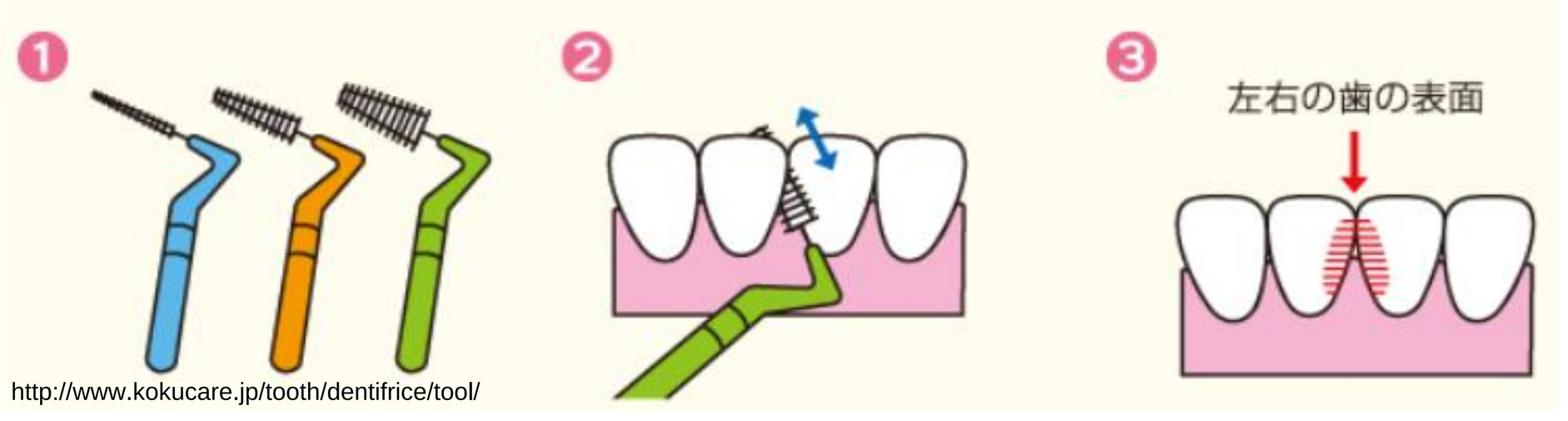

2020

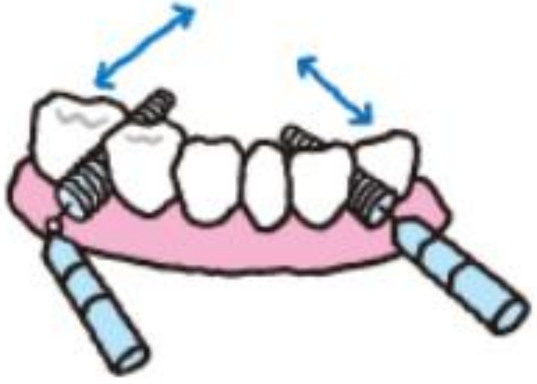

2020

Interdental brush, dental floss

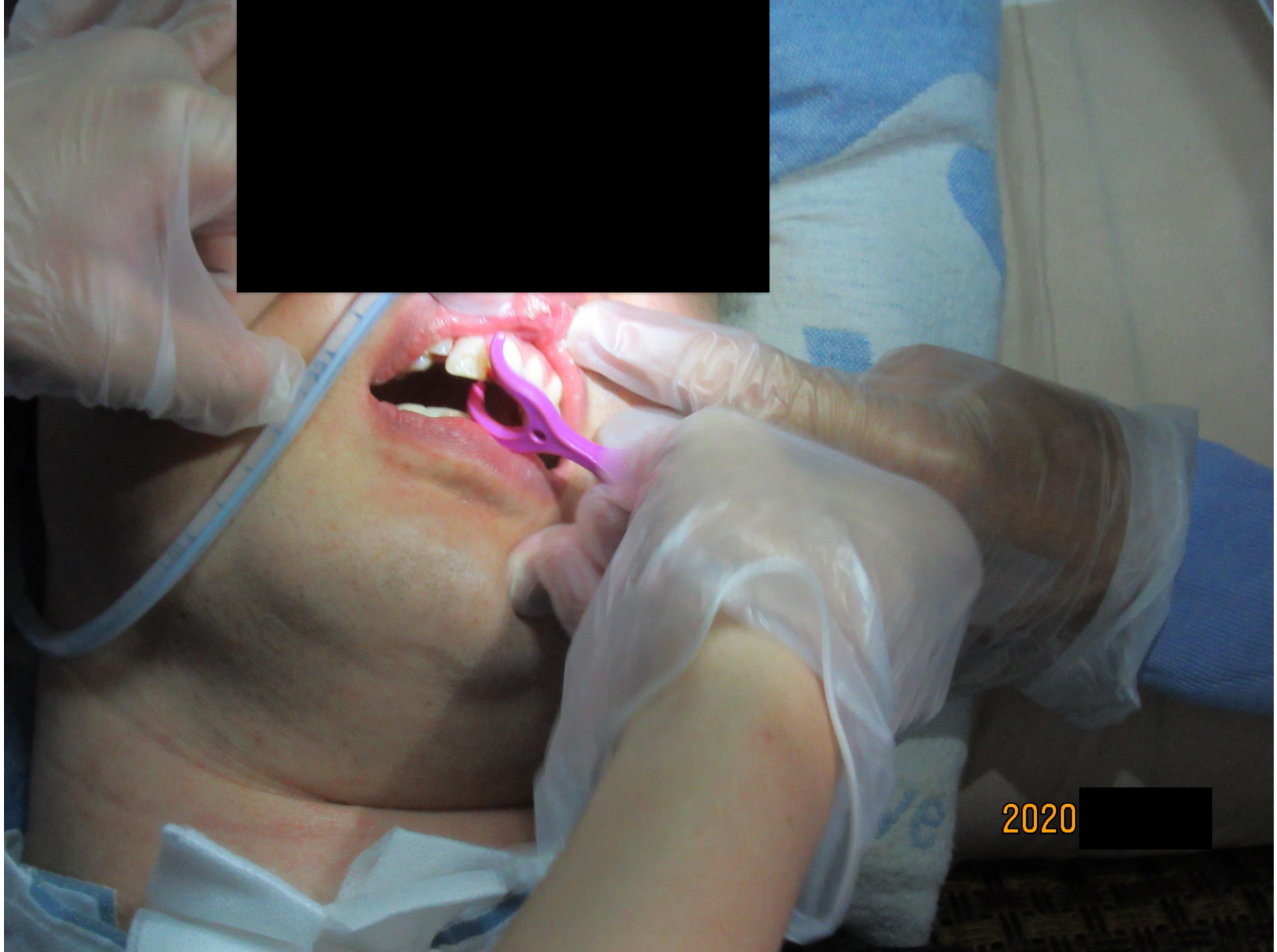




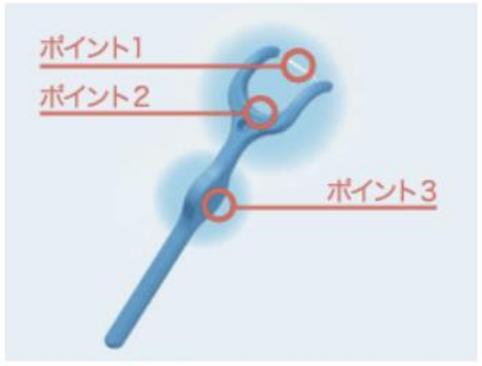




http://www.kokucare.jp/tooth/dentifrice/tool/


2020

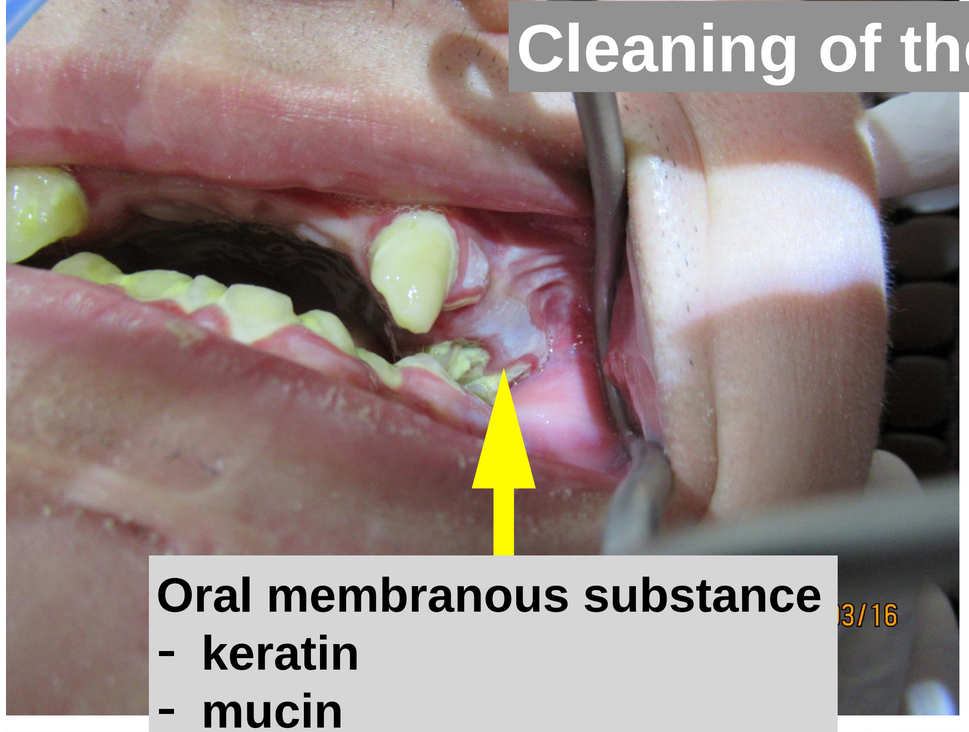

matsu kiyo
NTD. 89
▼保管に便利なファスナー付き
デンタルフロス Y字型
繰り返し使える
30
本入
ゆるく張ったフロスが歯基に優しく
歯間の歯垢をしっかり除去
奥まで入りやすい形状で
歯周病になりやすい奥歯をしっかりケア
使いやすく操作しやすいハンドル


ポイント1
ポイント2
ポイント3


薬
マツモトキヨシ
松本清

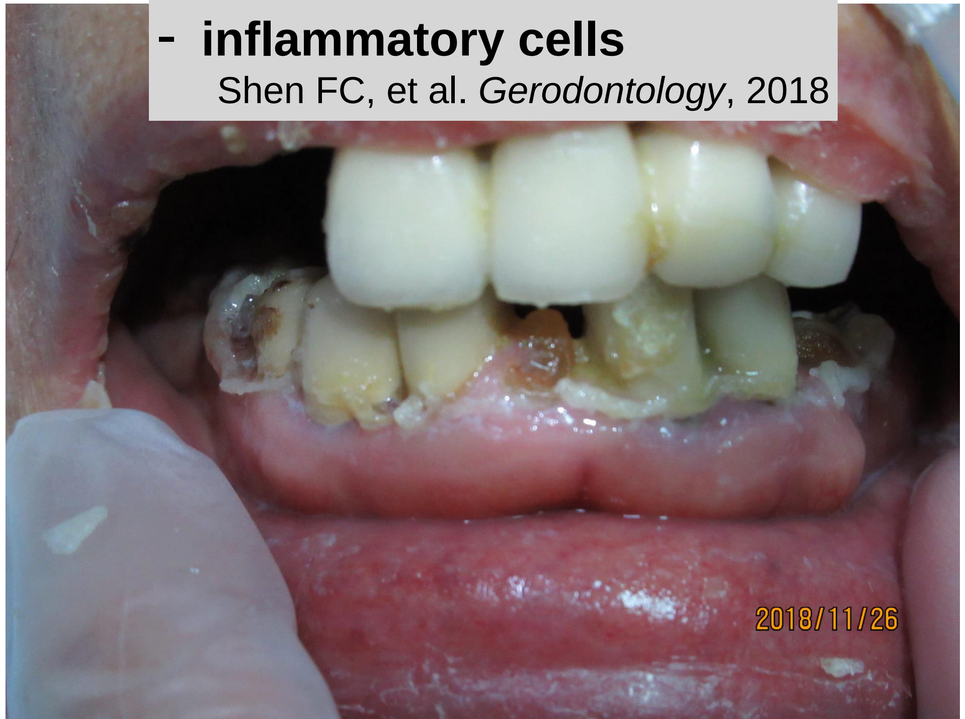
Y 型牙線

Cleaning of the oral mucosa



Oral membranous substance
- **keratin**
- **mucin**
- **inflammatory cells**

Shen FC, et al. *Gerodontology*, 2018

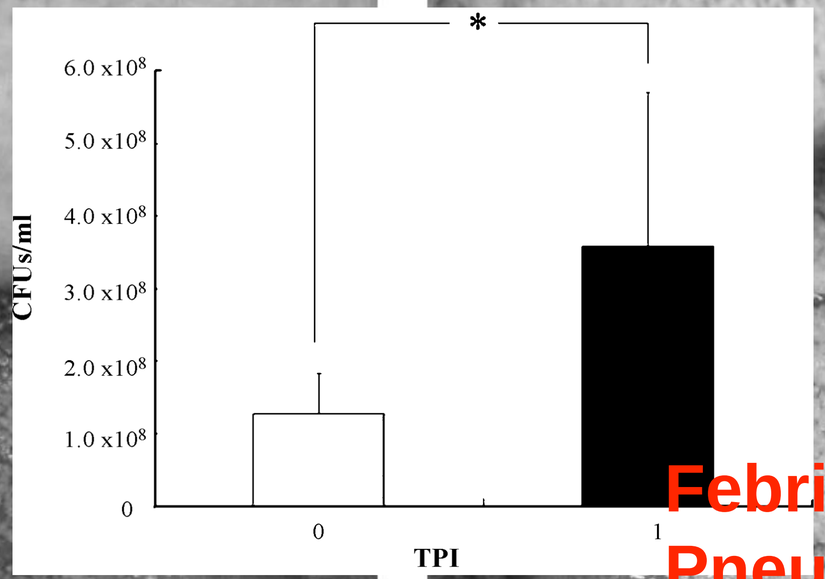


71 **edentulous** elderly patients in a nursing home

Tongue plaque index (TPI)

TPI0

TPI1



Febrile days
Pneumonia

Abe S, et al. *Arch Gerontol Geriatr*, 2008

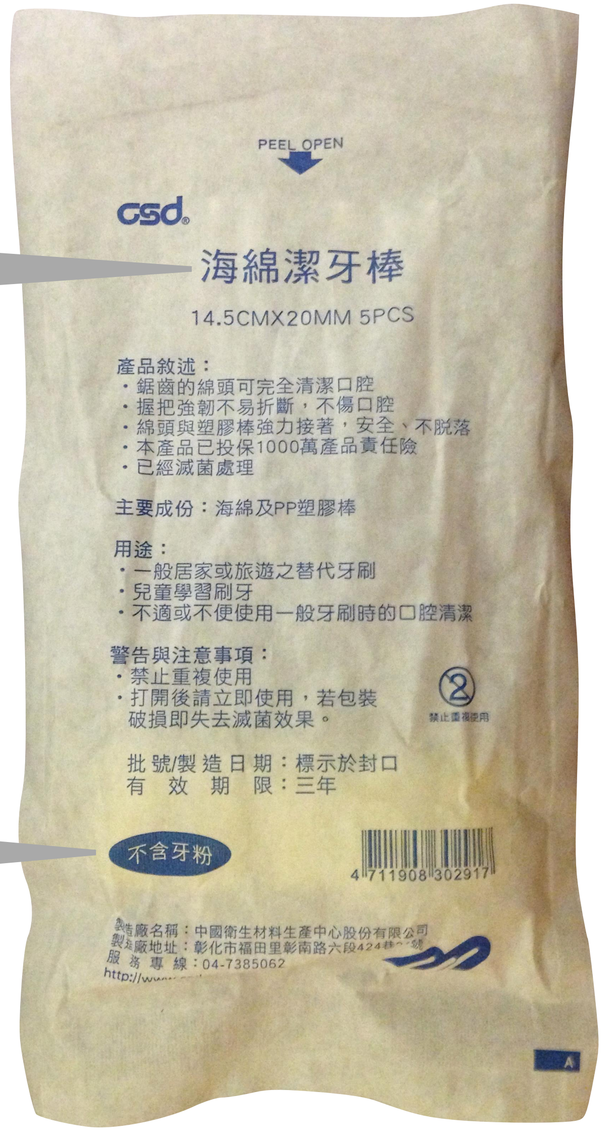
Oral sponge brush

csd

海綿潔牙棒

14.5CMX20MM 5PCS

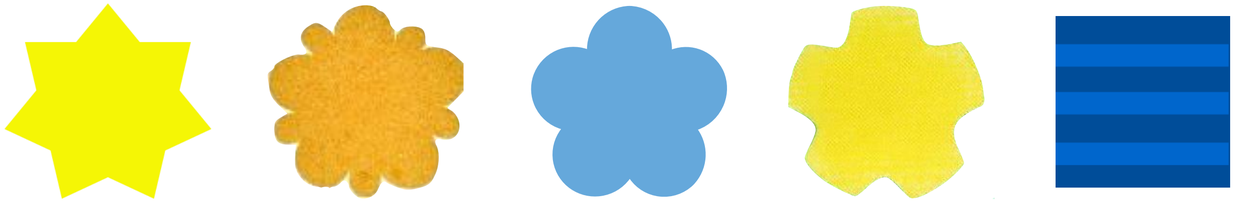
不含牙粉

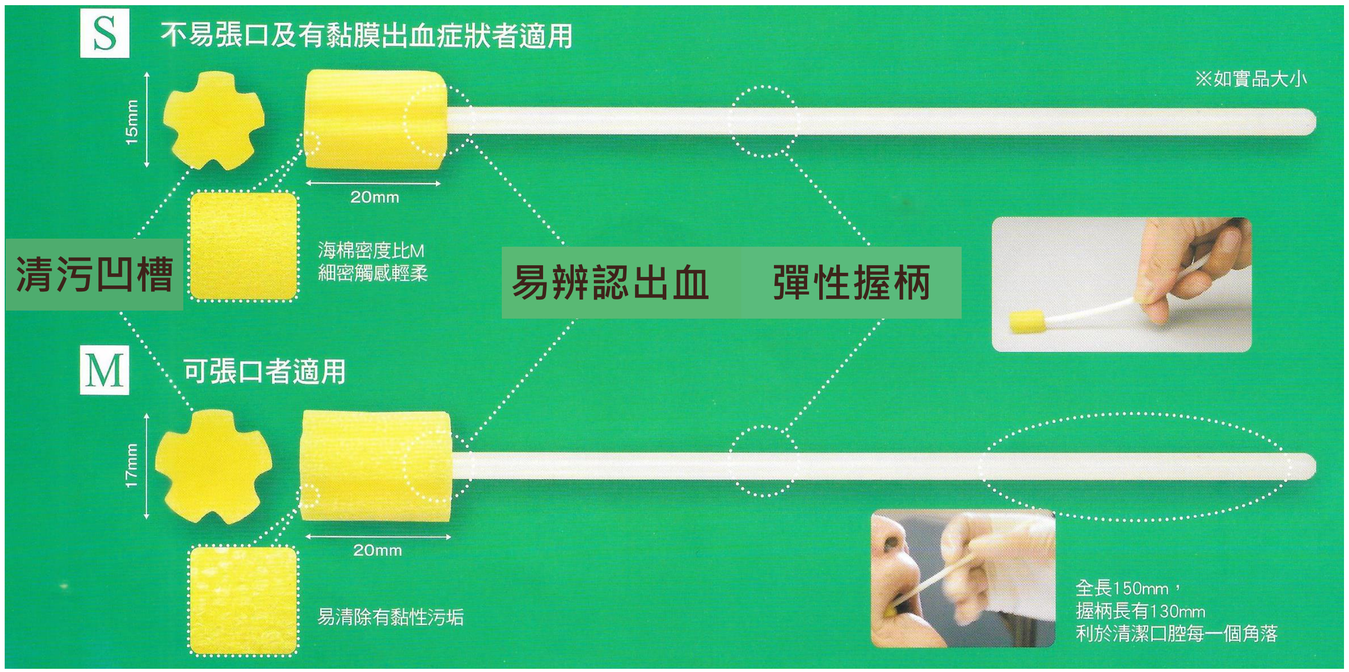


BUTLER
A SUNSTAR COMPANY

株式会社東京技研
Viva-Kururin

GC
Pratica disposable oral care sponge





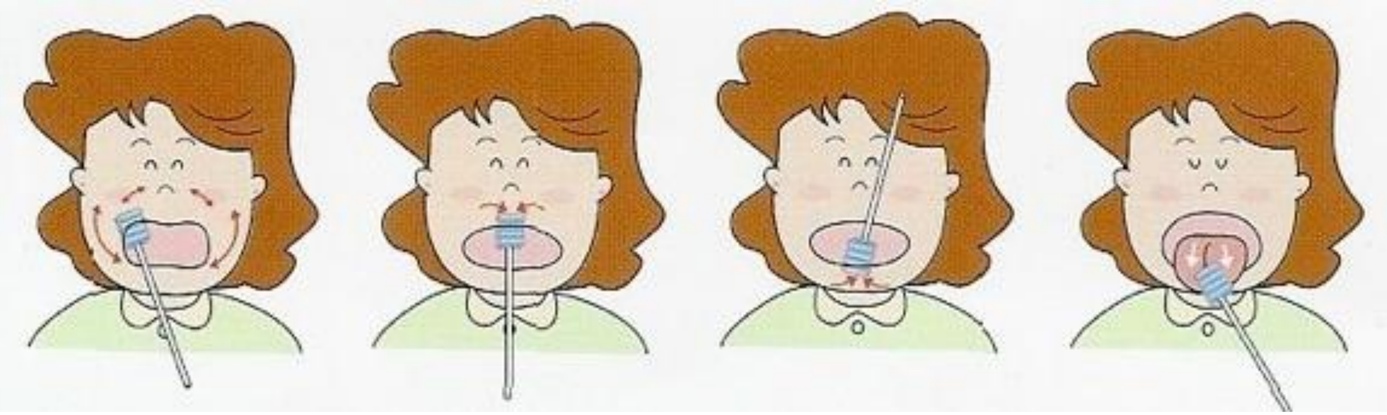
圓錐面用於狹窄處

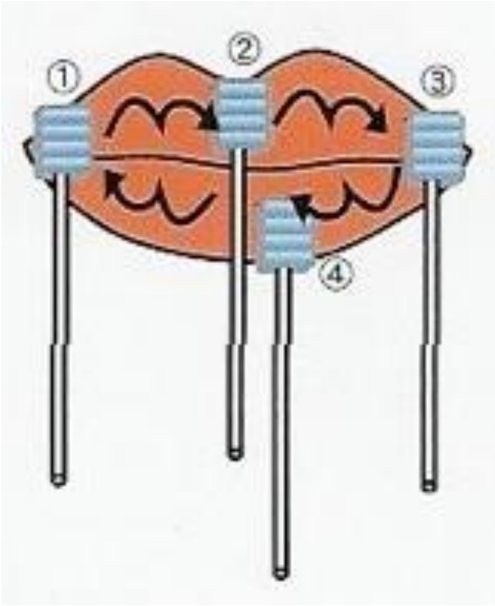
平滑面用於舌背

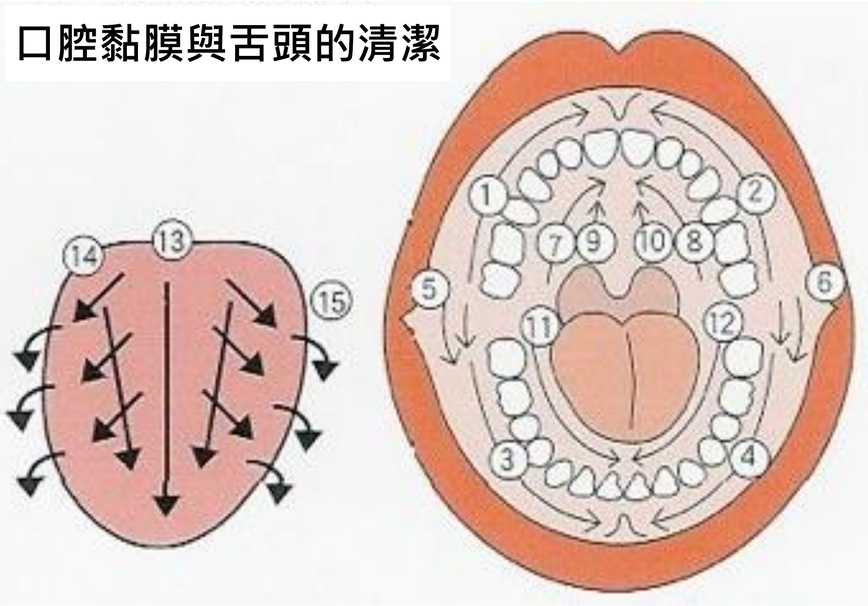
凹槽清除黏膜殘渣

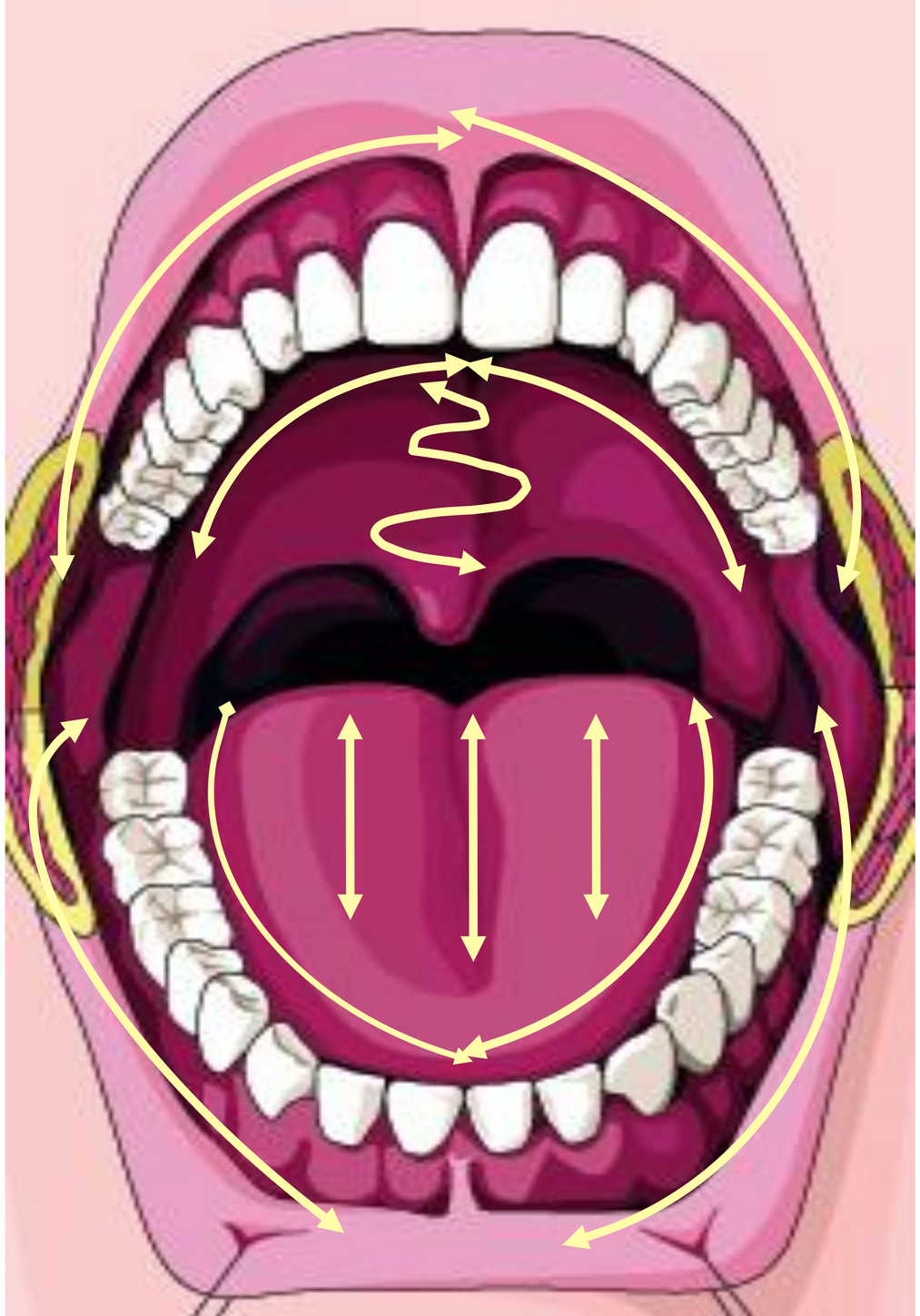
Order of mouth cleaning

The food residue would not be pushed to the pharynx.









摂食･嚥下障害患者にみられる口内乾燥への対応

ケア前

口腔内が乾燥し汚れが
こびりついています

５～６時間後元に戻る

清　掃

通常の口腔清掃
だけでは数時間
で元に戻って
しまいます

通常の口腔清掃だけでは数時間で元に戻ってしまいます

清 掃

オーラルバランス を口唇から
口内粘膜全体に塗布します

ケア後 １７ 時間

口内が潤っているので汚れがつきにくくなっています

バイオティーン
biotène®

写真ご提供　万成病院　歯科　小林直樹医師

Oral moisturizing gel

style3 讓口腔維持保濕狀態 Viva- Jellwet

Tip1 **安全無毒** 保濕劑的成分和設計，恰好可以達到保濕口腔內的最低限值，基本概念為《硬化水》，水溶性的凝膠體

Tip2 **可隨意操作保濕劑的型態** 均勻塗抹在口腔後，再進行口腔護理時，即可輕鬆除去口腔內的乾燥汙物

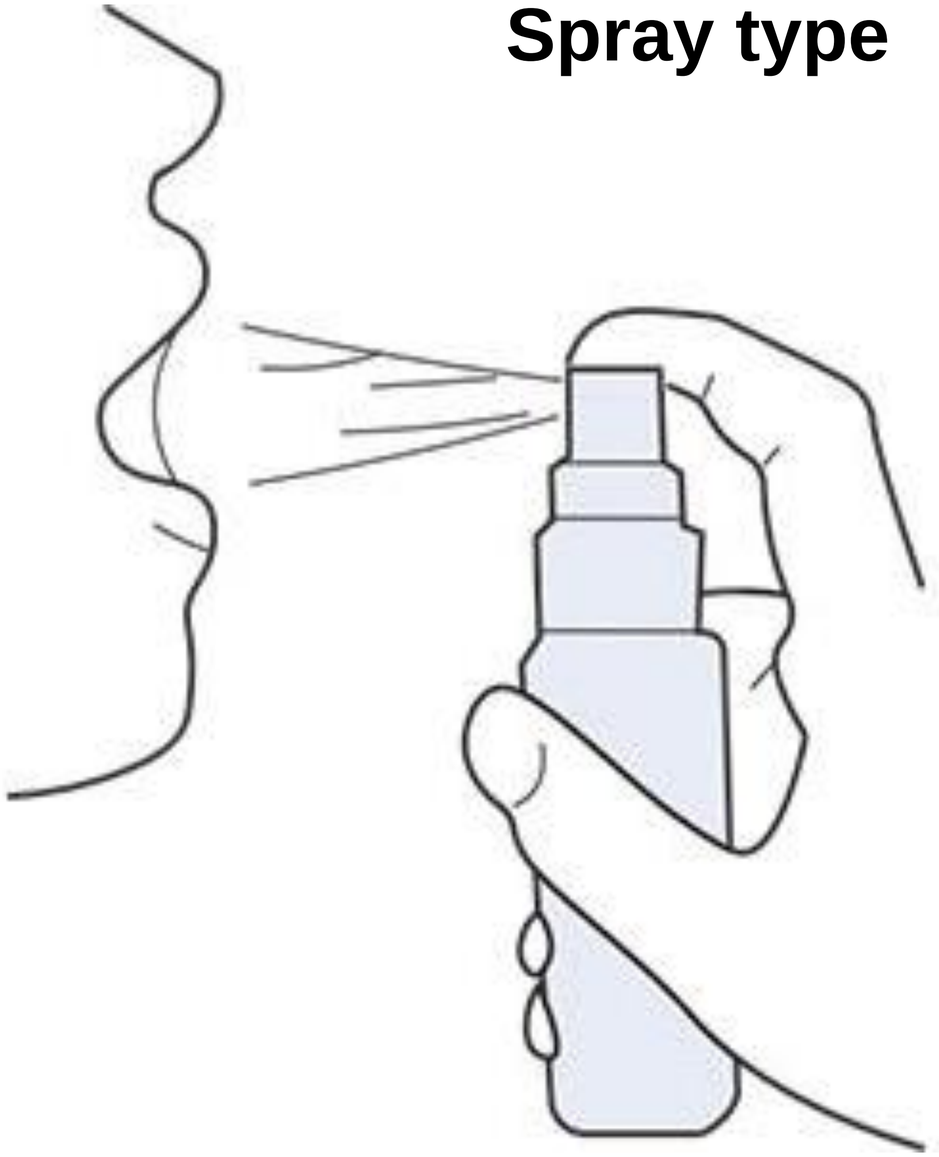
Tip3 **無臭無味** 吞嚥困難者，味覺障礙的患者也可以安心使用

口腔護理護理保濕劑

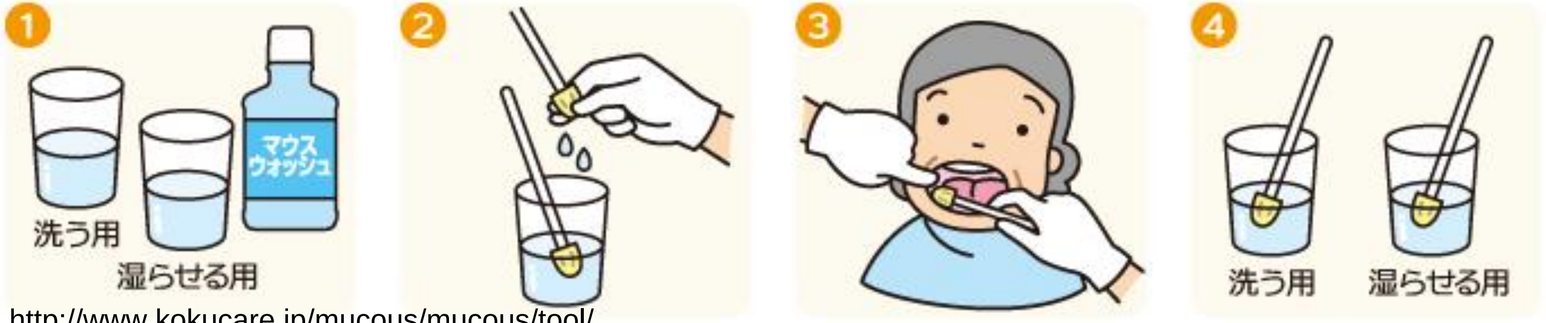
成分：水、甘油、海藻酸鈉
羥乙基纖維素、檸檬酸、
檸檬酸鈉

40g E552　120g E551

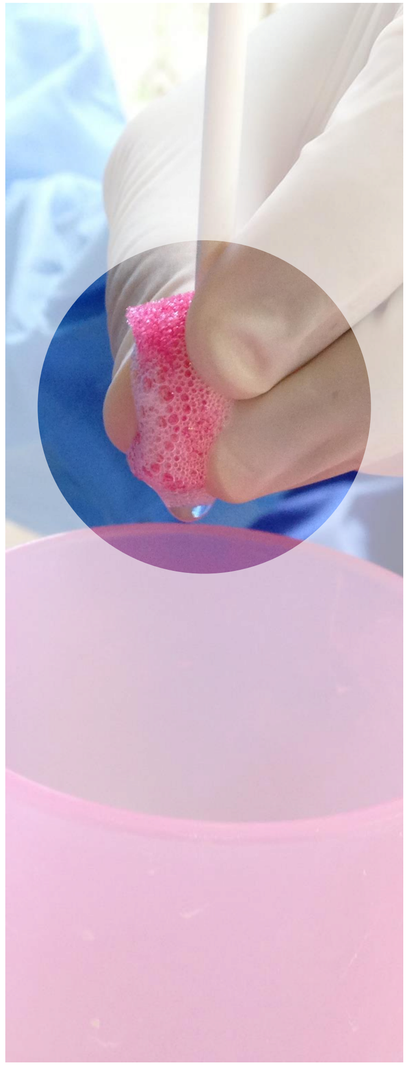
Spray type

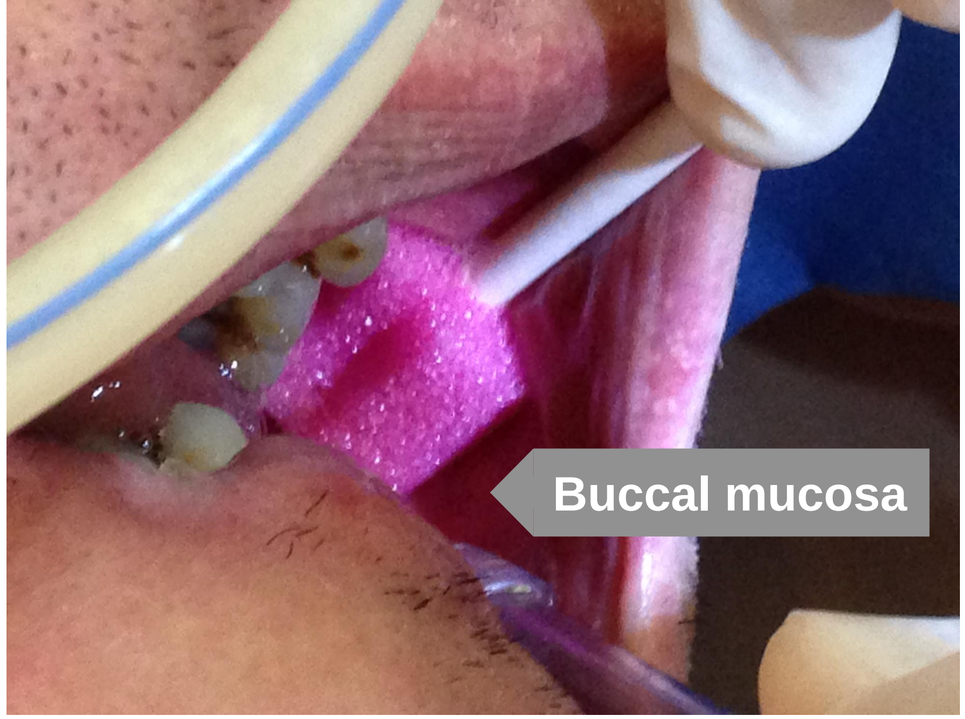



SUNSTAR
BUTLER
歯科専売品
口の中に
触れないから
衛生的
直接スプレー
するだけ
手軽
ジェルだから
口の中で
たれにくい
バトラー 保湿
ジェルスプレー
口腔保湿液
ほのかなミントの香り
SG
乾燥したお口に
シュッとひと吹きで
うるおいを
※画像はイメージです



http://www.kokucare.jp/mucous/mucous/tool/




Buccal mucosa


Vestibule, gingiva


Labial mucosa


Lip

http://www.kokucare.jp/mucous/mucous/tool/

Ways to keep mucosa moist

Gel - finger

Gel - spongy

Wet tissues

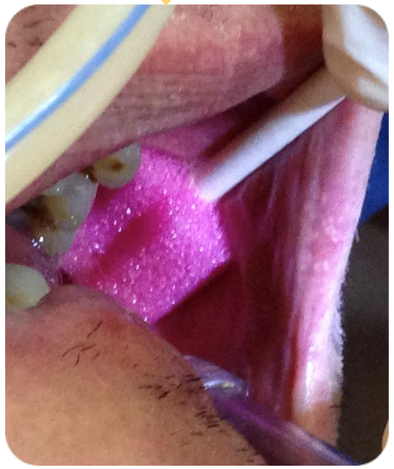
http://www.kokucare.jp/arrangements/before/openmouth/

Oral care procedure

Ikeda M, et al. *Geriatr Nurs*, 2014
Kobayashi K, et al. *Geriatr Gerontol Int*, 2017

Teeth:
- toothbrush
- interdental brush
- dental floss

Soft tissue:
- tongue scraper
- sponge brush



30 ml water:
- by patient
- by syringe

Rinse

Wipe

Oral moisturizing gel

https://dep.mohw.gov.tw/DOMHAOH/cp-486-40177-107.html

長期照護服務對象

口腔照護

醫療工作實務版

衛生福利部委託
衛生福利部雙和醫院編印

目 錄

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照顧者的潔牙知能與技巧及減敏感按摩.....22

特殊需求者衛教

發行單位-財團法人台北市牙醫師公會
發行日-2015年發行

社團法人台北市牙醫師公會特殊需求者委員會編印
感謝臺大醫院特殊需求者牙科醫療服務示範中心中心提供

如何幫特殊需求者刷牙

1.照護者位於被潔牙者後方，以左手上臂及前臂環抱被潔牙者頭部固定

2.幫人刷牙拿法用拿”筆”的方式拿

3.左手食指撐開臉頰，右手拿筆姿勢刷牙，上面區域牙刷刷毛向上約45度角，包含一點點牙齦兩顆兩顆刷10下，頰側刷完刷咬合面，咬合刷完刷舌側

4.左手食指不動，下面區域牙刷刷毛向下約45度角，刷牙動作同上排牙齒

單人輔助法

適用年紀較小或是配合度稍微不佳的特殊需求者

- 操作者坐在床上或乾淨的地板（背後要有可靠的床頭櫃或牆面）
- 被潔牙者的頭躺在操作者肚子
- 操作者的雙腿跨過被潔牙者的肩膀，壓制雙手的動作

雙人輔助法

適用配合度不佳且會抗拒的特殊需求者

- 單人固定法
第二位輔助者跨坐在被潔牙者腰上，用雙手壓住膝蓋

口腔去敏感

1.從肩膀按摩開始

2.手掌貼著臉頰緩慢畫圓方式按摩

3.上唇和下唇處記得也要用手指去按摩

4.將開上唇將兩手食指放入頰側撐開，手掌輕貼著臉頰畫圓按摩

5. 手指輕輕夾住上唇和下唇畫小圓

6.左手食指撐開臉頰，右手食指指腹輕貼上排牙齦由後往前慢慢滑過，如有掙扎或用力時手指貼著不動等穩定後在慢慢往前（此時請勿把手指移開），重複約2-3次

7.左手食指不動，右手食指指腹輕貼下排牙齦由後往前慢慢滑過，和上排一樣重複約2-3次

8.右手食指撐開臉頰，左手食指指腹輕貼上排牙齦由後往前慢慢滑過，如有掙扎或用力時手指貼著不動等穩定後在慢慢往前（此時請勿把手指移開），重複約2-3次

9.右手食指不動，左手食指指腹輕貼下排牙齦由後往前慢慢滑過，和上排一樣重複約2-3次

10.最後重複4和2的動作後結束按摩

http://www.tda.org.tw/people/education/content.asp?ID=42

http://www.tda.org.tw/people/education/content.asp?ID=42

刷牙的方法

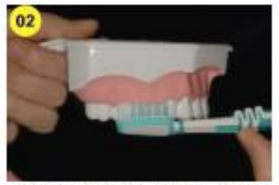
潔牙輔助用具

特殊需求者潔牙三寶：
牙刷、張口棒、牙間刷

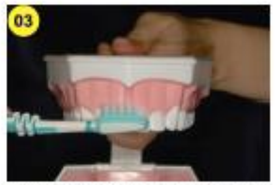
牙線器:適用牙縫過小或牙齒排列不整

牙菌斑顯示劑

牙刷的拿法用比”讚”的方式拿



刷毛對準牙齒與牙齦交接的地方，刷上顎牙齒時牙刷刷毛朝上，刷牙時牙齦也要刷到



刷毛與牙齒呈４５度角，將刷毛向牙齒輕壓，兩顆兩顆來回刷十下

右邊頰側往前刷

中間舌側往左刷

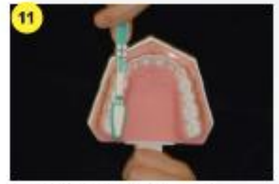
左邊頰側，頰側刷完刷咬合

左邊咬合面，咬合刷完換舌側

左邊舌側往前刷

中間舌側往右刷

右邊舌側，舌側刷完刷咬合



右邊咬合，上面刷完刷下面

右邊頰側往前刷，刷下顎時刷毛朝下

中間唇側往左刷

左邊頰側，頰側刷完刷咬合

左邊咬合面，咬合刷完換舌側

左邊舌側往前刷

中間舌側往右刷

右邊舌側，舌側刷完刷咬合

中山沐課雲端學院
到宅牙醫醫療課程

長期照護服務對象
口腔照護手冊

貝氏刷牙321

特殊需求者
衛教單張

Thank you
for
your attention