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oral fluids which are super in the presence of saliva and
Once plaque pH recovers to a
ingestion of the sucrose rinse.
until about 40 minutes after the
returns to normal without
low the critical pH for approxi-
mately 15-20 minutes and
Following a sucrose rinse the
plaque pH is reduced from ap-
proximately 5.5. Plaque pH stays be-
low about 5.5.

Anatomy and histology

The type of salivary secretion
varies according to gland. Sec-
cretions from the parotid gland
are watery in consistency, those
from the submandibular and
sublingual glands, and
particularly the minor mucous
glands, are much more vis-
cous, due to their glycoprotein
content. The histology of the
gland therefore varies accord-
 ing to gland type.

All of the salivary glands de-
velop in a similar way. An
in-growth of epithelium from the
stomatodeum extends deeply
into the ectomesenchyme
and branches profusely to form
all the working parts of the gland.
The surrounding ectomes-
enchyme then differentiates to
form the connective tissue
component of the gland i.e. the
capsule and fibrous septa that
divide the major glands into
lobes. These developments
take place between 4 and 12
weeks of embryonic life, the
parotids being the first and
the sublingual and the minor
salivary glands being the last
to develop. The minor salivary
glands are not surrounded by
a capsule but are embedded
within the connective tissue.

Formation of saliva

The fluid formation in salivary
glands occurs in the end piec-
es (acini) where serous cells
produce a watery seromucous
secretion and mucous cells
produce a viscous mucin-rich
secretion. These secretions
arise by the formation of inter-
stitial fluid from blood in capil-
laries, which is then modified
by the end piece cells. This
modified interstitial fluid is
secreted into the lumen. From
the lumen it passes through
the ductal system where it is
further modified. Most of the
modification occurs in the strig-
ated ducts where ion exchange
takes place and the secretion is
changed from an isotonic solu-
tion to a hypotonic one. The
composition of saliva is further
modified in the excretory ducts
before it finally secreted into
the mouth.

Physiology of saliva forma-
tion

Composition and flow rate

The composition of saliva var-
ies according to many factors
including the gland type from
which it is secreted. Salivary
flow rate exhibits circadian
variation and peaks in the late
afternoon. Normal salivary
flow rates are in the region
0.5-0.4 ml/min when unstimu-
lated and 1.5-2.0 ml/min when
stimulated. Approximately 0.5
– 0.6 litres of saliva is secreted
day. Many drugs used for
the treatment of common
conditions such as hypertensive,
depression and allergies (to
mention but a few), also in-
fluence salivary flow rate and
composition.

Saliva as a diagnostic fluid

Caries risk assessment

A number of caries risk as-
essment tests based on meas-
urements in saliva have been
developed, for example tests
which measure salivary mu-
tas streptococci and Lacto-
bacilli and salivary buffering
capacity.

High levels of mutans strep-
tococci, i.e. >105 colony form-
ing units (CFUs) per ml of
saliva, are associated with
an increased risk of developing
caries. High levels of Lactoba-
cilli (>105 CFUs per ml saliva)
are found amongst individuals
with frequent carbohydrate
consumption and are also as-
sociated with an increased risk
of caries.

Buffering capacity – Higher
buffering capacity indicates
better ability to neutralise acid
and therefore more resistance
to demineralisation.

In addition to showing promise
for the prediction of periodon-
tal disease progression and
caries levels, analysis of saliva
has been employed in phar-
macogenomics, as well as the
evaluation and assessment of
decortine studies.

Saliva not only plays a pivotal
role in the maintenance of a
healthy homeostatic condition
in the oral cavity, but contrib-
utes to one’s overall health
and wellbeing. Components
from saliva interact in differ-
ent ways with the dentition
to protect the teeth. Patients
who lack sufficient saliva suf-
f er from many oral diseases, of
which caries is only one. To al-
leviate discomfort they are ad-
vised to use saliva stimulants
and substitutes which have
the function of lubricating the
oral surfaces. Chewing gum
is increasingly being viewed
as a delivery system for active
agents that could potentially
provide direct oral care ben-
efits, as it promotes a strong
flow of stimulated saliva.

The fourth edition of Saliva
and Oral Health is available in
hard copy or e-book format at
www.shancokssl.com. A full
list of references is included in
the book.

*Underwriting costs for this
Saliva and Oral Health edition
were provided by Dr. Michael
Dodds and The Wrigley Com-
p any.

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Campaigns

Ayurvedic treatments have
evolved

By Dental Tribune Middle East

“Pediatric dental community has evolved”

By Dental Tribune Middle East

DUBAI, UAE: Recently
the Emiratess Pediatric
Dental Club was formed
spearheaded by elected
President (with the support
of Crest & Oral-B) Dr. Dina
Debaybo – Assistant Clinical
Professor of

ORAL HEALTH 15

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Dr. Dina Debaybo

Dr. Dina Debaybo

EXPLORE DENTAL COSMETIC INTERNATIONAL CONFERENCE Joint Meeting with 3RD AAD GLOBAL CONFERENCE November 14-15, 2014 Jumeirah Beach Hotel, Dubai, UAE
Pediatric Dentistry at the Faculty of European University College. We interview Dr. Dina Debaybo to find out the plans for the coming year for the newly found EPDC.

DTME: Dr. Dina, Congratulations on your president elect position and the great achievement of forming the Emirates Pediatric Dental Club. Could you introduce yourself shortly?

Dr. Dina Debaybo: I trained as a dentist at Saint Joseph University in Beirut Lebanon then moved to move to Dubai in 1996 where I held different positions in Dubai Health Authority and the Ministry of Health for 16 years. An experience that really shaped me as a professional in skills, ethics and values. I met exceptional leaders such as Dr. Tariq Khoury (Head Dental Services, Dubai Health Authority (DHA) and Head Ahmad Sultan (Head of Dental Chapter Emirates Medical Association EMA and Head of Dental Services, Ministry of Health in Northern Emirates). I then got involved in establishing the Dubai campus of the Boston University School of Graduate Dentistry project in Dubai Health Care City. It was an eye opener on academics in post graduate education. In 2010 I joined the first Pediatric Dentistry Center in the UAE, established by Dr. Elhami Nicolas as part of the Nicolas and Ass Dental Centers, where preventive and comprehensive services are offered within the scope of practice of the American Academy of Pediatric Dentistry (Guidelines of the AFD).

Please elaborate on the process behind the formation of the EPDC and its members.

The pediatric dentistry community has evolved and blossomed to reach more than 100 professionals within the last 4 years with the establishment of the post graduate pediatric dentistry programs in the UAE and with the influx of specialists from overseas. Joining efforts with the mission to provide quality care to younger ones can better be rendered by gathering all efforts and joining in the path of excellence. Each child in the UAE has a fundamental right to his complete oral health care. The Emirates Pediatric Dental Club has a dutiful obligation to ensure that all children living in UAE receive high-quality and accessible oral health care.

What are the plans for the coming year 2014 for you and the EPDC?

The plan for our members is to provide advanced specialized continuing dental education for pediatric dentists. We are looking forward to working closely with The European University College for their hosting of the European Academy of Pediatric Dentistry (EAP/ MDENA Middle East chapter and North Africa) chapter from 27th to 29th of March 2014. We are also planning to have collaborative sessions during the Asia Pacific Dental Congress (APDC) from 14th until 17th June 2014. Also on the agenda is a side event to AEDDC from 5th until 7th of February 2014. On a larger scale we will be trying to establish a close net-ted cooperation with the already established GCC Pediatric Dentistry Associations since we do face the same prevalence and incidences of oral health diseases in children.

What are some of the biggest challenges for Prevention and Oral Health awareness in the Emirates?

Evidence based research has provided us with data relevant to the caries index in the UAE. The index of caries in 6 year old children is 8 to 9. More explicitly, it reveals 8 to 9 cavities in primary teeth in the oral cavity of a 6 year old. The basic need of chessing is to prevent caries in permanent teeth as soon as they erupt (Fissure sealants). We will also involve including preventive measures under the larger umbrella of Autism Spectrum Disorder is adding more difficulties to families. Working closely with all community groups is our daily endeavor. We will keep trying and learning in the long journey towards a caries free community.

Would you like to share additional information with the readers?

The establishment of the Pediatric Dentistry Chapter of the Emirates Medical Association is aimed at making a difference in children’s lives, all children, healthy and less healthy children. The community is faced with new challenges with Children with Special Needs. Behavior problems under the larger umbrella of Autism Spectrum Disorder is adding more difficulties to families. Working closely with all community groups is our daily endeavor. We will keep trying and learning in the long journey towards a caries free community. Sincere thanks for your close interest in Pediatric Dentistry.

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