

the
center
for
pediatric
dentistry

A PARTNERSHIP OF
**University of Washington
& Seattle Children's**

Washington Dental Service Building

Efficient Care and Training in Pediatric Dentistry

Joel H. Berg, DDS, MS



SCIENCE NEWS

Of the year

THE WEEKLY NEWSMAGAZINE OF SCIENCE

What's in a Name?

Scientific-classification schemes don't usually make children cry, but I know at least one 5-year-old who was in tears when he heard that Pluto had been struck from the list of true planets. In any science, as fields advance, definitions must be reconsidered, however difficult it is for people to readjust.

Children aren't alone in feeling strongly about Pluto's status. Last June, after the International Astronomical Union announced that it would redefine the word *planet*, a group of adults formed the Society for the Preservation of Pluto as a Planet. Feelings ran high among astronomers too. A panel proposed a definition on Aug. 16 that would have kept Pluto as a planet (*SN: 8/19/06, p. 115*), but astronomers attending the union's meeting voted overwhelmingly on Aug. 24 to add a size criterion that relegated Pluto to a less prestigious category: dwarf planet (*SN: 9/2/06, p. 149*).

Another controversy in 2006 hinged on definition. Time as recorded by the astoundingly accurate atomic clocks doesn't stay in sync with time measured by Earth's rotation. So, what's a year? Timekeepers argue that both measures are useful but haven't agreed when to add leap seconds to make the planetary and the atomic clock years match up (*SN: 4/22/06, p. 248*).

The boundaries of the category *Homo sapiens* also received scientific attention this year. A report challenged the 2004 announcement that a fossil find on an Indonesian island represents a new species of tiny relatives of humanity, arguing that the partial skeleton came from an early person with a growth disorder. Some anthropologists adamantly disagreed or noted that it's difficult to delineate who's who among fossil species (*SN: 11/18/06, p. 330*).

Strong opinions also clashed over whether ants leading nest mates to food warranted the word *teaching* (*SN: 1/14/06, p. 20*). And zoologists raised the possibility that birds, like scientists, may debate a word's meaning. A recent report says that chickens use a "tck, tck, tck" to announce a nutritious find, such as corn kernels (*SN: 11/18/06, p. 325*). Perhaps next year researchers will detect behaviors suggesting that one bird asks another, "You call that food?"

—Julie Ann Miller, Editor in Chief

HOW TO OBTAIN FULL ARTICLES This review lists important science stories of 2006 reported in the pages of *Science News*. The reference after each item gives the volume and page number in which the main article or the subject appeared (vol. 149 is January–June; vol. 150 is July–December). An asterisk indicates that the text of the item is available free on SCIENCE NEWS ONLINE (www.sciencenews.org). Full text of any article can be obtained for \$2.50 from Product Support Services (custserv@scinews.com). Back issues are available for \$3 each (postpaid). Send orders to SCIENCE NEWS, 1779 K Street, N.W., Washington, D.C. 20006.

Anthropology & Archaeology

Mini debate Anthropologists clashed over a report that a partial skeleton initially attributed to a new, tiny species of human cousins actually comes from a pygmy *Homo sapiens* with a developmental disorder (*170: 330*).

Ancient genes New techniques enabled scientists to extract an unprecedented amount of DNA from a Neandertal fossil, ushering in a new era of Neandertal genetics (*170: 323**).



An excavation in Africa yielded the oldest and most complete fossil child in our evolutionary family, from a more than 3-million-year-old species (*170: 195**).



Exploration of an ancient, dried-up lakeshore in Australia revealed the largest known collection of Stone Age footprints, made roughly 20,000 years ago (*169: 2**).

Mix it up Genetic analyses suggested that human and chimpanzee ancestors interbred before going their separate evolutionary ways no more than 6.5 million years ago (*169: 308**).

* An internet address that the text of the item is available free on SCIENCE NEWS ONLINE. URL is available at www.sciencenews.org/articles/20061223/06227.htm.

REIMAGINING: 2006 AUTHORITY FOR RESEARCH AND CONSTRUCTION OF CULTURAL HERITAGE, COURTESY NATIONAL GEOGRAPHIC; CURPER

Write stuff Researchers concluded that a slab of stone found by road builders in southern Mexico contains the oldest known writing in the Americas, from almost 3,000 years ago (170: 179*).



At a prehistoric farming village in Pakistan, researchers discovered the oldest known examples of dental work, 11 teeth with drilled holes dating to between 9,000 and 7,500 years ago (169: 213*).

Back tracks Bones from a 1.8-million-year-old spinal column supported the controversial theory that ancient human ancestors talked to one another (169: 275*).

Tree trimming Fossils of a 4.1-million-year-old human ancestor in Africa fueled the idea that early members of our evolutionary family arose one species at a time rather than branching out into many species (169: 227*).

Old England Investigators who found 700,000-year-old stone tools at a site on England's southeastern coast said that the implements provided the earliest evidence of human ancestors in northern Europe (169: 29).

Sizable find A 260,000-year-old skeleton from China was determined to represent the largest known female among human ancestors and offered insights into the origins of large, broad bodies adapted to cold climates (169: 116*).

Astronomy

Doggone After a rancorous debate, planetary scientists voted to demote Pluto, leaving the solar system with only eight planets (170: 115*, 149). Another object that's larger than Pluto and was once touted as the tenth planet at the fringes of the solar system was renamed Eris and excluded from planethood (169: 26*, 230*; 170: 237*). Further blurring the definition of planet

were observations of low-mass brown dwarfs (170: 360*).

Crash cargo In the aftermath of a collision between two galaxies, researchers directly detected invisible dark matter for the first time, they reported (170: 131*).

Big picture The most detailed portrait ever taken of the radiation left over from the Big Bang provided fresh evidence that the universe began with a brief but tremendous growth spurt (169: 163*).

Dark secrets A controversial study hinted that dark energy may not have been constant over time (169: 35). But Hubble Space Telescope observations traced dark energy's fingerprints to earlier in time than ever before and indicated that the energy hadn't varied (170: 323).

Comet collector Analyzing a capsule containing dust collected from the comet Wild-2, scientists found evidence that comet material could have formed only at the fiery temperatures close to the sun and was then widely distributed across the solar system (169: 37, 182*; 170: 387*).

To the moon! NASA unveiled a plan to begin assembling a human outpost on the moon in 2020 and finish building it by 2024 (170: 373).

Martian water A Mars-orbiting spacecraft discovered recent color and shape changes on two Martian slopes, a sign that water might have flowed there in just the past few years (170: 416).

Crumbling comet Scores of telescopes recorded the continuing breakup of a comet as it nears the sun (169: 277*).

Moon jet A spacecraft confirmed that the south pole of Saturn's moon Enceladus spews jets of icy particles into space (169: 13*, 282*).

Growing up fast When the universe was only one-fifth its current age, a remote galaxy had already begun to look like the modern Milky Way (170: 157).

EYE ON SATURN

The Cassini spacecraft captured an image of the most powerful storm ever seen on Saturn (169: 118*). New evidence indicated that a shattered moon produced the planet's main rings (169: 198*). With the sun poised behind Saturn, Cassini discovered two new rings and confirmed the presence of two ringlets (170: 243).

Delayed onset The next solar-activity cycle won't begin until late 2008, a year later than the sun's standard cycle would forecast, a new computer model predicted (169: 147*).

Galactic cannibalism A highly elongated group of stars was revealed to be a dwarf galaxy that the Milky Way is gobbling up (169: 78). About 13 billion years after its birth, our galaxy is still packing on the stars (170: 12).



After several years of uncertainty, NASA gave the go-ahead for a shuttle crew to replace and repair parts on the Hubble Space Telescope (170: 294).

Radio daze Astronomers discovered what appears to be a new class of radio wave-emitting stars (169: 39).

Stellar performance Measuring radioactive material spewed by dying stars, astronomers calculated the star-formation rate in our galaxy over the past few million years (169: 6).

Gravity's lens Astronomers found 19 cosmic mirages, phenomena created when the gravity of a massive galaxy bends and magnifies the light from a background object (169: 45).

Titanic findings The frigid surface of Saturn's moon Titan revealed dunes like those in the Arabian Desert (169: 333). Radar images strongly suggested that the moon holds lakes of liquid hydrocarbons (170: 83*) and a combination of radar and





At a prehistoric farming village in Pakistan, researchers discovered the oldest known examples of dental work, 11 teeth with drilled holes dating to between 9,000 and 7,500 years ago (169: 213*).

Major Developments in Dentistry

- Anesthesia
- Highspeed handpiece
- Fluoride
- Acid-etch technique
- Light polymerization
- CAD/CAM
- **Treatment of caries as a disease**

History of Caries Prevention

- **1882 AD** – W.D. Miller reported that dental decay is a chemico-parasitic process consisting of the decalcification of enamel and dentin followed by the dissolution of the softened residue mediated through bacterial acid production
- **1899 AD** – G.V. Black postulated the importance of plaque biofilm in caries initiation and proliferation

ALUMNI NEWS

pediatric dentistry

UNIVERSITY OF WASHINGTON

Volume 10 Number 4 • 2009



Joel Berg photo

What do these Peruvian children have in common with many American children? Poor access to care and a mouthful of cavities

Investing... ...in children's oral health

Prevention is the early intervention that pays off—in the US and globally...p. 2, 4
Congrats to our grads of 2009! p. 3





Did you have a cavity as a child?





American Academy of Pediatrics: 2008 Top Three Children's Healthcare Issues



- Mental Health
- Obesity
- Oral Health
 - ✓ “Dental Caries is the most common chronic disease affecting children in the United States.”

It takes a community...



Mission and Vision

Mission:

- To improve oral health of infants and toddlers through research, education, service delivery and public policy.

Vision:

- To be recognized throughout the world as the leader in early childhood oral health, and as a result of our work, dramatically mitigate the unmet need in the management of childhood caries.

The screenshot shows the homepage of the Center for Pediatric Dentistry website. At the top left is the logo for 'the center for pediatric dentistry'. To the right is a navigation menu with links for Home, About The Center, Media, Outreach Events, Contact The Center, and Directory. Below the navigation is a search bar with a 'go' button and language options for Español, Русский, and Other. The main header features a large image of a smiling child. Below the image is a 'QUICK LINKS' section with a list of links: Parents + Patients, Hours and directions, How to Make an Appointment, Fees & Insurance, Our Care Providers, and a link to 'request an appointment'. Below this is a row of three buttons: 'FOR PARENTS & PATIENTS', 'FOR PROFESSIONALS', and 'FOR STUDENTS'. The main content area is divided into two sections. The first is 'Meet Our Experts', which includes three video thumbnails for 'Dr. Consectetur Aliquam', 'Dr. Aliquam Consectetur', and 'Dr. Consectetur Aliquam', with a 'meet more doctors' link. The second is 'A message from Dr. Berg', which includes a video player showing a man speaking. At the bottom of the page are social media icons for Facebook, Twitter, and RSS. The footer contains contact information for the School of Dentistry at the University of Washington and Seattle Children's Hospital, including phone numbers for the Dean's Office, Patient Admissions Office, and Student Admissions Office.

Marketing Promotion

facebook

Sign up The Center for Pediatric Dentistry is on Facebook
 Sign up for Facebook to connect with The Center for Pediatric Dentistry.

The Center for Pediatric Dentistry Like

Wall Info Photos

The Center for Pediatric Dentistry Did you know that the Washington Dental Service Building used to be the Naval Administration Building on the Sand Point Naval Base? Find more information here: http://www.historylink.org/index.cfm?disPlayPage=output.cfm&file_id=2249

45 minutes ago · Comment · Like

The Center for Pediatric Dentistry This picture is an aerial of the Sand Point Naval Air Station taken in 1946. This area is now where Magnuson Park is located. Building 25 (which was remodeled into the Washington Dental Service Building) is circled.

40 minutes ago · Flag

The Center for Pediatric Dentistry If you didn't already know, here's where our new clinic is located. :)

17 hours ago · Comment · Like

The Center for Pediatric Dentistry Taking a walk through the new Washington Dental Service Building that will open for patient appointments on September 1st.

The Center for Pediatric Dentistry The Center for Pediatric Dentistry is located in a building that used to be the Navy Administration Building (Building 25) at Magnuson Park.

Information

Locations
 6222 NE 74th St
 Seattle, WA, 98115

Phone:
 206.543.3525

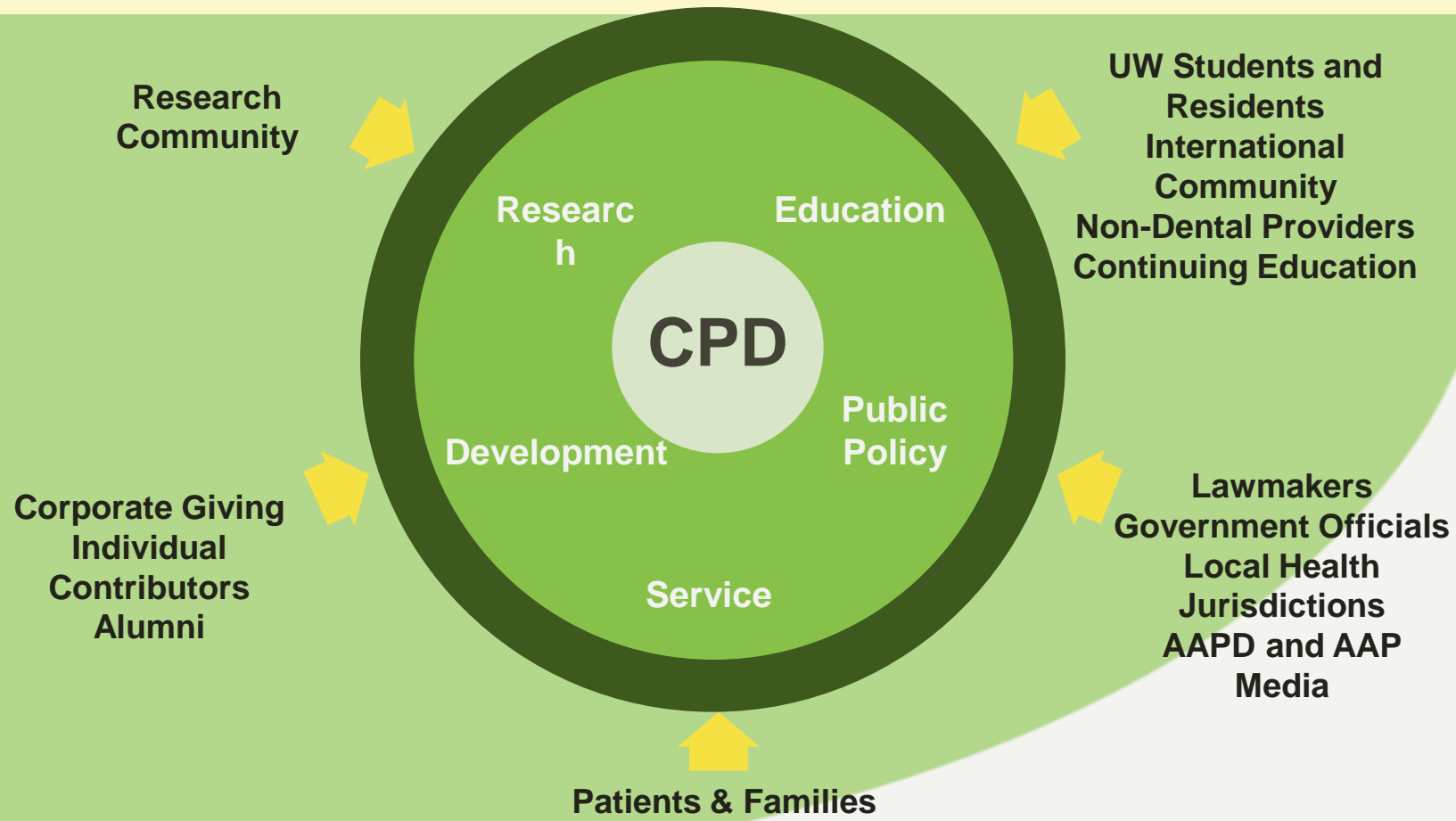
Mon - Fri:
 8:00 am - 5:00 pm

14 People Like This

Joe Stout, Travis Nelson, Jenice Palmer, Jeanne Madnick Ryan, Ryan Ink, Joel Balozza

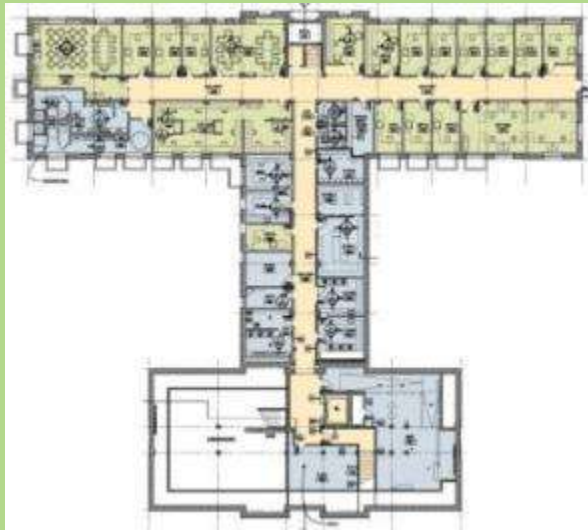
A Living Lab & Virtual Center

A PARTNERSHIP OF University of Washington & Seattle Children's
Washington Dental Service Building



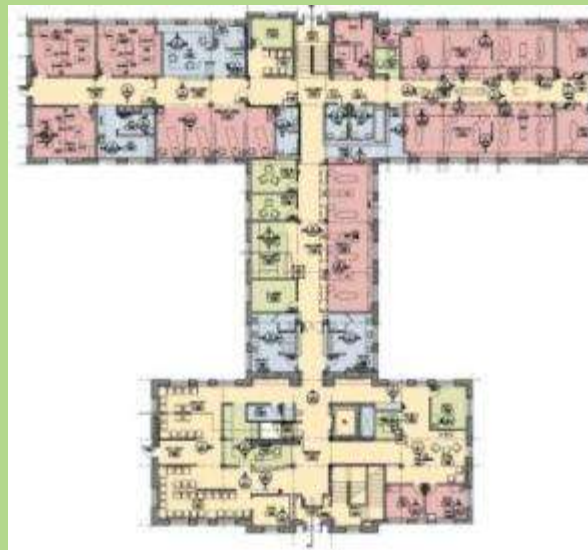
Schematic Drawings

Lower Level



Offices & Support
Functions

Main Level



29 patient chairs
(total)

- Infant & Toddler
- Dental Students
- Dental Residents

3 Operating Rooms

Second Level



Faculty
Practice

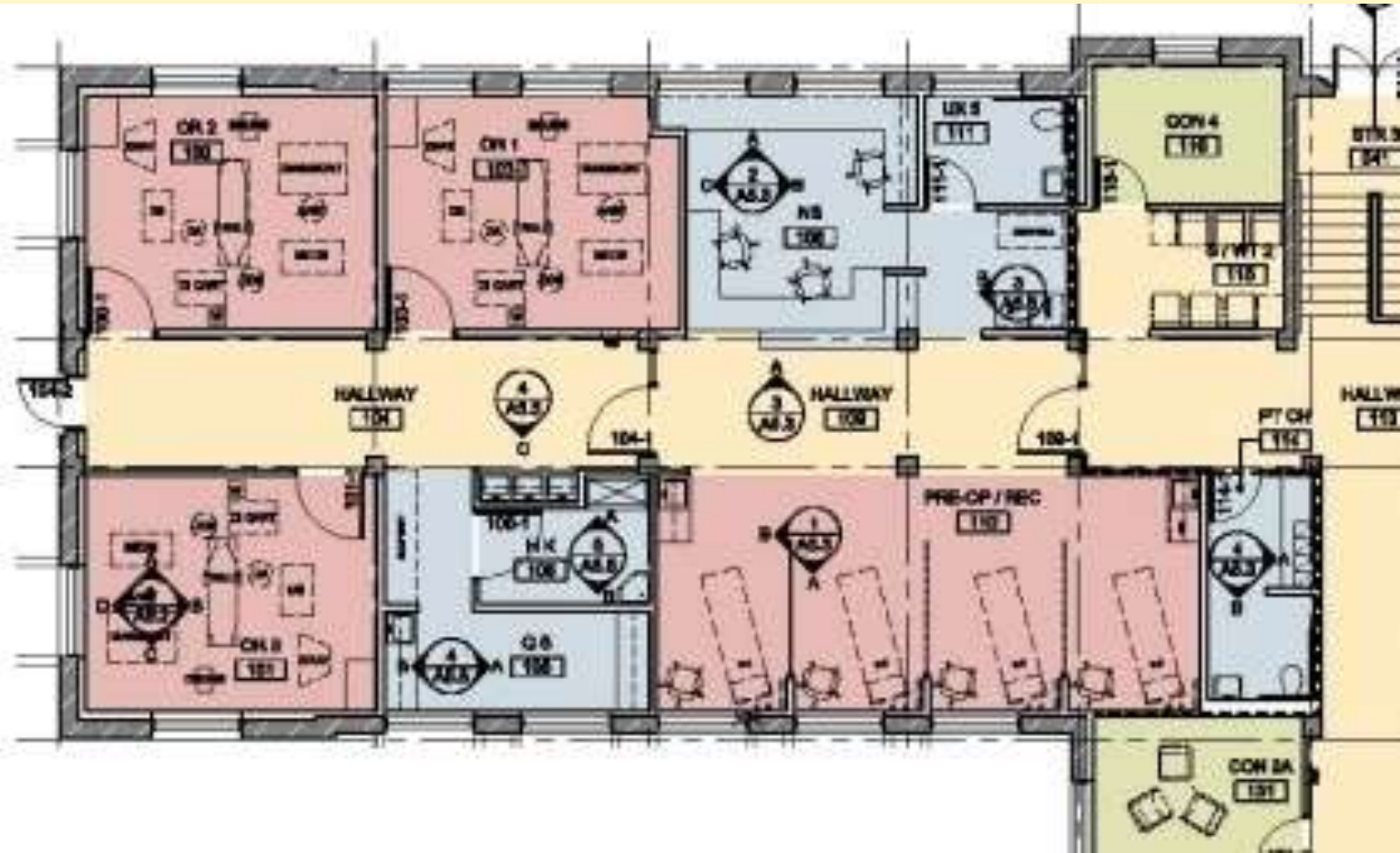
Third Level



Administration

Seattle Children's Surgical Suite

A PARTNERSHIP OF
University of Washington
& Seattle Children's
Washington Dental Service Building



Dental Exam Areas



Dental Exam Areas



EFFICIENCIES: LOOKING EVERYWHERE

New Patient Registration Done at Initial Call

A PARTNERSHIP OF
University of Washington
& Seattle Children's
Washington Dental Service Building

- Currently done before appointment



Welcome Information Packet Sent

- How to get to the new facility
- What to expect
- Include newsletter
- Other things to do at Magnuson Park



Volunteer Greeter

- Personal and friendly welcome
- Assistance with checking in
- Keeps parents informed of any delays



Self Check-In Kiosks

- For returning/recall patients with no changes to demographics or insurance



Chair Assignment Scheduling



- Reduce wait time in waiting rooms
- Recall
- Restorative
- Special Needs

Social Work

- Social Work availability/intervention within clinic



Social Work



The screenshot shows the website for the Center for Pediatric Dentistry. At the top, there is a navigation bar with links for "About the Center", "News & Media", and "Contact Us". Below the navigation bar is a large image of a child's face being examined by a dental professional. The Center for Pediatric Dentistry logo is overlaid on the left side of the image. Below the image, there are three tabs: "FOR PARENTS & PATIENTS", "FOR PROFESSIONALS", and "FOR STUDENTS". The "FOR PARENTS & PATIENTS" tab is selected, and the content below it is titled "Social Work in Pediatric Dentistry".

Social Work in Pediatric Dentistry

We are here to assist parents/caregivers with the often confusing network of agencies and regulations in our health care system.

By asking one of the clinic team members—patient services representatives (front desk), dental assistants, the clinic manager, dental faculty and dental residents—the family can contact the social worker for assistance and support.

- How can the social work team help you and your family?
- Help apply for children's health coverage
- Arrange for transportation if needed
- Help find additional community resources for your family
- Coordinate with other health providers
- Seek answers to parents' concerns
- Find answers to parents' questions about treatment
- Remind you about upcoming appointments

Paging System (For Families)



- When available chair is ready
- Family has been waiting for a longer procedure and wants to go outside
- Patient is out of recovery

Paging System (For Providers)

- Limit steps to reach individual
- Notify of instrument/consumable needs
- Urgent needs



Kids Play



- Teaching opportunity
- Short diversion activities (but not so entertaining that youngsters don't want to stop to go to appointment)
- Reach Out and Read opportunities

Education Area

- Infant and toddler area
- Video/DVD
- Written material
- Computer access



Electronic Health Record (EHR)



- 100% Electronic Records
- Improved treatment planning
- Educational opportunity for students/residents

Standardized Operatories

- 12 o'clock delivery systems
- Drawer set up



Digital Radiology

- Fully integrated with EHR
- Ability to pull up any recorded image chairside
- 11 chair side intra-oral opportunities



Over the Patient Monitors

- Teaching opportunity with over the patient monitors (patient, parent, student, resident)
- Inter-oral imaging to show/teach patient and parent
- Patient diversion (movies) over the patient monitors

Saving Time

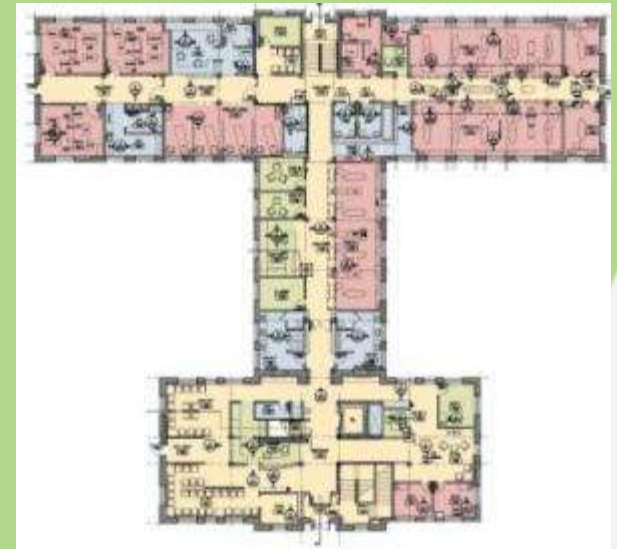


- Rescheduling chairside when possible
- Centralized check-out for patient information

Clinic Design

- Open architecture for patient care areas (PODS) for supervision of students, residents
- Sinks and hand sanitizer stations
- Standardized staff uniforms for clear identification of staff

Main Level



29 patient chairs
(total)

- Infant & Toddler
- Dental Students
- Dental Residents

3 Operating Rooms

Cassettes for Instrumentation

- Standardized
- Set up based on type of appointment
- Bar-coded and entered into EHR



Inventory

- Core instruments inventory
- OPTIONS inventory management system
 - Handheld bar-coding scanning technology
 - Minimum/Maximum counts on hand to manage volume and space
 - Automatic ordering

Ordering Supplies

- Core supplies
- Consumable ordering
- Specialized shelving/bins to reduce searching
- Delivery carts, stocked with consumables for just-in-time delivery to operatories, routine routes



Sub-Sterilization Station

- On clinic floors to process instruments prior to moving to central sterilization
- On 2nd floor self contained to eliminate movement through facility and accommodate as-needed sterilization

Extra Supplies

- Stored centrally on each floor to eliminate hidden supplies in back of drawers



Personal Touch

- Happy patients make the day go smoother!
- Next day check calls for patients/parents who were anxious or had a lot of treatment
- Sent a thank you to all new patients
- Patient satisfaction survey
- Age-appropriate book to take home along with a toothbrush

Unique ways in which we will reach our operating goal

OUTREACH AND MARKETING

Strategic Approach

- Gather market intelligence
- Develop strategic alliances
- Create a distinctive and valued brand
- Establish need
- Utilize multiple patient acquisition channels
- Emphasis on patient retention and referrals

Gather Market Intelligence

- Analysis of market potential
- Literature search
- Executive interviews with key stakeholders
- Focus groups with parents
- Geo mapping



Develop Strategic Alliances



- UW
- Seattle Children's
- WDS/F
- Major dental product providers
- Major consumer brands
- KOMO/ Fisher Broadcasting

Create a Distinctive and Valued Brand

- Emphasize partnership
- Make the name descriptive
- Emphasize we are more than a service provider



Establish Need

- Ensure the medical community understands need
- Ensure the dental community understands need
- Ensure the media understands need
- Ensure that current patients understand need
- Ensure that potential patients understand need
- Ensure that all audiences understand the consequences of their actions

Utilize Multiple Patient Acquisition Channels

- Current UW & Seattle Children's patients
- UW & Seattle Children's employees
- Patient Referrals
- Dentist/Primary Care Referrals
- Community outreach



Emphasis on Patient Retention



- Exceptional customer service plan
- Customer driven culture
- Recognition for loyalty
- Recognition for referrals

Timelines & Milestones

- Construction: July 2009 – August 2010
- Permits: State, City & County – on going
- Grand Opening: September 2010
- Operations – as planned for 2 months...



How will we attract patients?



- Our message will concentrate on the **age one dental visit** and establishing a **dental home**.
- Increase understanding and work creatively across disciplines to **eliminate barriers** to access to care.
- Two-thirds of all Medicaid eligible children do not see a dentist. We will have capacity to see these children.

Leveraging our efforts and beyond

A PARTNERSHIP OF
University of Washington
& Seattle Children's
Washington Dental Service Building



Let's talk about quality measurement!



What is Quality Care?

- Technical excellence
- Patient satisfaction
- Evidence-based best practices
- Improved patient outcomes
- Reduced oral diseases
- **Or all of the above?**



According to...



Measuring **quality within dentistry** has long been a challenge. Everyone has their own definitions of quality, which makes it difficult to have a **consistent measurement across the overall patient population**. It is imperative for the dental profession to change that.

*Dr. Ron Inge, DDS, Executive
Director*



Quality care is the degree to which health services for individuals and populations the likelihood of **desired health outcomes** and are **consistent with current professional knowledge**

Aims of Quality Care

Effective	Providing services based on scientific knowledge to all who could benefit, and refraining from providing services to those not likely to benefit (avoiding underuse and overuse, respectively)
Efficient	Avoiding waste, including waste of equipment, supplies, ideas, and energy (including financial resources).
Patient-centered	Providing care that is respectful of, and responsive to, individual patient preferences, needs, and values, and ensuring that patient values guide all clinical decisions
Equitable	Providing care that does not vary in quality because of personal characteristics
Safe	Avoiding injuries to patients from the care that is intended to help them
Timely	Reducing waits and sometimes harmful delays for both those who receive and those who give care

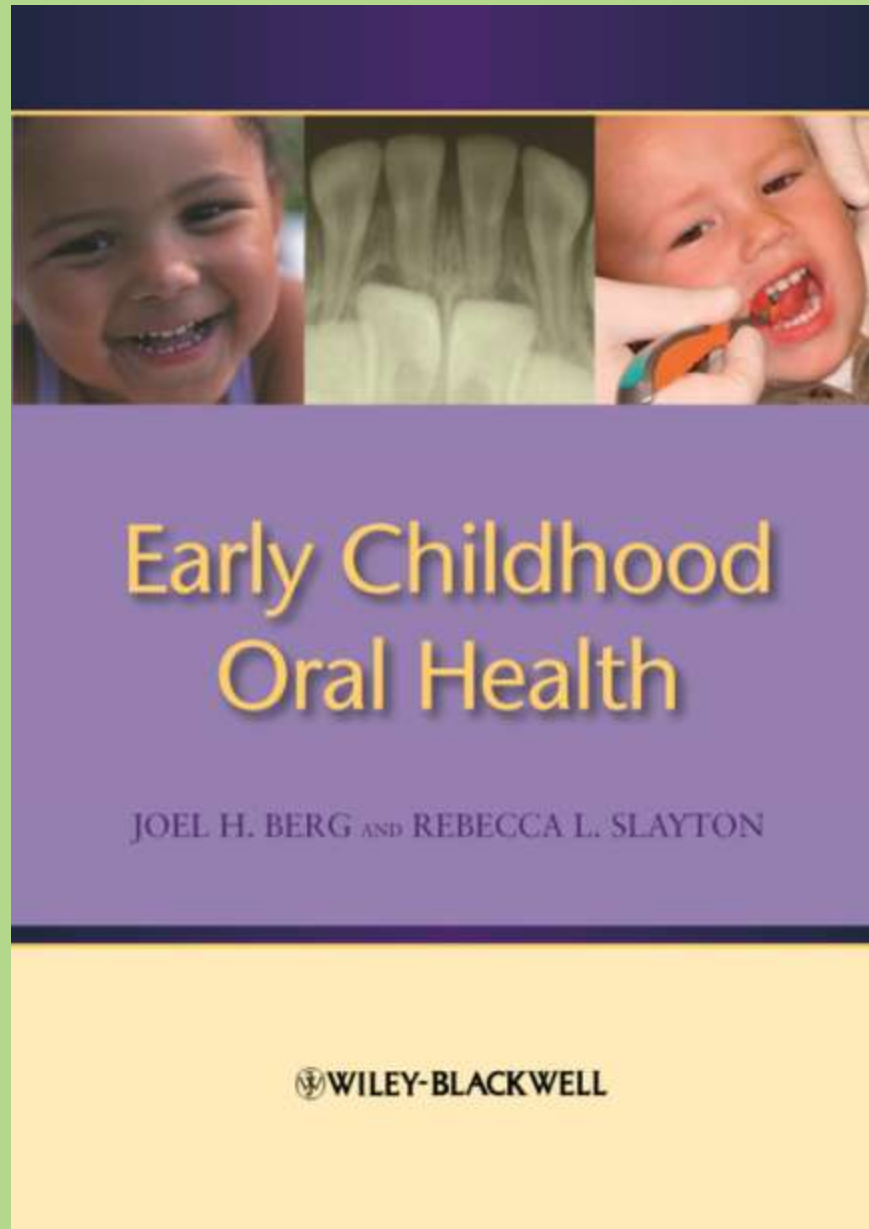
Source: IOM, Crossing Quality Chasm, 2001

Approaches to Measurement

	Summary	Data source	Challenges
Process	Did you do the right thing at the right time to the right patient?	Practice Mgmt Systems (PMS) Claims	<ul style="list-style-type: none"> • High practice variation • Little consensus • Evidence-base lacking • No diagnosis codes
Outcomes	Did the patient status stabilize, or improve due to your care?	PMS Claims Patient	<ul style="list-style-type: none"> • No standard status data • No standard measures
Patient satisfaction	Did the patient feel their needs were met?	Patient	None – Actionable now!
Structural	Do you maintain staff and facilities that are equipped to deliver technically sound and safe care?	Practice audit or survey	<ul style="list-style-type: none"> • ADA and OSHA do this now • Data aggregation and benchmarking is lacking

Why Measure Quality Care?

	Good for business	Good for patients
Demonstrate value of services	√	√
Identify and market practice strengths	√	√
Identify areas for improvement	√	√
Build professional knowledge base	√	√
Better understand impact of differing products and techniques	√	√



The Center's Reach

