**Dental Students Develop Manual Skills by Practicing on New Simulator Technology**

**BY MATTHEW DOUGHERTY**

Much like flight simulators assist in training new pilots, the School of Dental and Oral Surgery (SDOS) has implemented simulation machines to help first and second-year students reinforce the theoretical and practical knowledge and skills learned in class. Based on preliminary research showing that students may learn faster using simulation machines, the school expanded its 2-year-old dental simulation laboratory with three new machines in September.

The computerized simulators are used in SDOS to add to the traditional laboratory-based, pre-clinical training in the first and second years, before their third year when students see their first human patients.

Students use the simulators to develop manual dexterity skills by practicing procedures to prepare teeth for fillings and crowns. The system, called DentSim and made by DenX America of Las Vegas, NV, includes a patient maxillary head and partial torso, dental instru-
ments, infrared sensors on the instru-
ments and maxaumeen, an overhead infrared camera, and two computers. Students perform drilling and cut-
ing on sets of plastic teeth in the maxaumeen's mouth.

Simulation is a 3-D image of the student's work. The machine provides real-time, detailed feed-
back including alerts that sound dur-
ing incorrect procedures. For added realism, the simulation contains fict-
itious names, second-language medical histories, X-rays, examination and diagnosis notes, and treat-
ments. The data is stored in the machine's computer, enabling the work to be reviewed in a video format for performance evaluation.

To determine when students benefit most from the machines, Alice Urbankova, assistant professor of clinical dentistry and director of the dental simulation laboratory, collabor-
ated with Farhad Hadavi, profes-
sor of civil dentistry, and Vicki LeBlanc, a cognitive psychologist formerly with Columbia's Center for Education Research and Evaluation and now an assistant professor at the University of Toronto, on three stud-
ies of SDOS students.

They found the simulators most beneficial for students in the early stages of training on a particular set of skills. Based on those findings, students are required to use the machines in the first-year Dental Anatomy & Occlusion and Fixed Prosthodontics courses and in a sec-
ond-year course, Operative Dent-
istry, which Hadavi leads.

Because the lab has only three simulators, the 73 first-year students are divided into groups of about six students. (The same approach is used with the second-year students.) Each group is assigned three sessions on the simulators over a period of a few weeks. In those ses-
ions, the group is divided into three two-person teams to work with the machines.

A faculty member supervises each session. Students may study further with the instruction ana-
lyzed. Research on optimal use of the machines continues. The investiga-
tors are seeking to identify the suffi-
cient amount of training with the simulator, coupled with more tradi-
tional instruction.

So far, the DentSim machines are used for teaching purposes only, not for exams. But SDOS could use the machines for grading purposes in the future once their validity and reliability as examination tools have been assessed.

Richard Lichtencht, Benfield Associate Professor in Operative Dentistry and director of the divi-
sion of operative dentistry, says the machines enhance the students' edu-
cational experience by providing a sim-
ulated "one-on-one" teaching expe-
rience. Time efficiency may prove difficult in a tradition in which students have to wait for faculty to assess their work while instructors are evaluating others.

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sure at dental schools in the past few years, with about 11 of approximate-
ly 65 dental schools in North Ameri-
a having adopted the educational tools, Lichtencht notes. As the tech-
nology develops, these simulators may machines potentially be used in place of human patients in licensing exams. Lichtencht says that SDOS, group of the first schools to use the DentSim machine, is working with DenX America to improve the device as well as to develop new software. The main drawback of the appa-
ratus is its inability to simulate the entire procedure from start to finish, Lichtencht says. DentSim displays the standard manner by which to assess their work while instructors are evaluating others.

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**Revson Fellows Remember Eli Ginzburg For His Optimistic, Progressive Vision**

**BY JOSEPH KENNEDY**

Eli Ginzburg, an extraordinary and dynamic presence at Colum-
bia for more than six decades, died on Dec. 12, at the age of 91... noted professor, author, U.S. pres-
idential adviser and shaper of pub-
lic policy, Ginzburg capped his long career by serving as director of the Charles H. Revson Fellows Program and mentor to the city’s major institutions in govern-
ment, advocacy, are a testament to his passionate support of civic and public life.

In 1979, when the Revson Fel-
sors Program was established, Ginzburg was about to retire. Instead, he embarked on an already dis-
tinguished career by accepting appointment as director of the program, imbuing it with his cus-
tomary enthusiasm.

The Revson Fellows Program, funded by the Charles H. Revson Founda-
tion, chooses ten men and women from diverse backgrounds and fields of achievement each year. Revson Fellows spend two terms in full-time study for the purpose of enhancing their ability to contribute to the improvement of New York City or other large metropolitan centers.

Ginzburg overawed the selection of 230 Revson Fellows, actively mentoring them and guiding them into leadership positions. Their achievements as leaders in the city’s major institutions in govern-
ment, education, philanthropy and advocacy, are a testament to Ginzburg’s vision and a lasting legacy to the city.

“Eli has headed the program since its inception, becoming a spirited advocate for its innova-
tive approach; lending his enthusia-
ism, vision and wisdom; mak-
ing it matter,” recalled Eli N. Evans, president, Charles H. Rev-
son Foundation, in his obituary.

Evans also noted that the Revson Fellows reflected Ginzburg’s own lifelong commitment to diversity.

“The program’s 230 Fellows, about evenly divided between men and women, have been black, white, Hispanic, Chinese, Korean, Indian and Caribbean. They have included public officials, union organizers, educators, clergy, arts administrators, journalists from both main-
stream and alternative media, and activists involved in all aspects of the econom-
ic, social and political life of the city,” said Rossi Rennssoff, senior attorney for the New York Public Interest Research Group/Straphangers Cam-
paign and a 1983-84 Revson Fellow, was particularly impressed with Ginzburg’s encyclopedic knowledge and unfailing optimism.

“Eli was always hopeful about improving the city, even if he sometimes terroriz-
ed candidates and Fellows by respond-
ing to their descriptions of their strate-
gies and programs by saying ‘that was tried in 1962 and didn’t pan out,’ Rennssoff said. ‘Every year I would ask him if he was optimis-
tic about the future of the city and every year he would say yes. That didn’t change during our last selection committee get together in the wake of the World Trade Cen-
ter attack. That was 9/11. On September 11th he said no more than the Depression, the Second World War, the 1969 Columbia protests of the 1960s.’

Gara LaMarche, vice president and director of U.S. Programs for the Open Society Institute, was a 1988-
89 Revson Fellow. He remembered the ease with which Ginzburg trans-
cended social barriers.

“Though he was in some respects a pillar of the establish-
ment—son of a prominent rabbi, a presidential adviser—Eli presided over the selection and mentoring of over 200 Revson Fellows who were extremely diverse, feisty and unpretentious,” said LaMarche, “and who have gone on to take their place as leaders in their communities and in the city.”

LaMarche noted.

Evans added that Ginzburg had a unique ability to empathize with the Revson Fellows because in his own experience he had also strug-
gled on behalf of fairness and equity.

“Those who might have thought that no one else understands the urgency of equal justice as hard as they had, would learn that he had been deeply involved in the efforts to integrate the armed services, and that he brought the memory of this battle to the table. Eli was the wise and experienced counselor on contro-
versial issues, with nuanced views of discrimination and justice deep-
ened by years of involvement in labor and education policy in the shaping of the national.”

Ginzburg remained a passionate mentor to the Revson Fellows right up until his death.

“He had a remarkable ability to listen and sum up your arguments and themes better than you could on your most articulate and coher-
etent day,” LaMarche said.