AI	GLOSSARY	**Ethics in Dentistry:** **Discussion of the Hippocratic Oath, ADA Code of Ethics, and Artificial Intelligence**
AI	**Artificial Intelligence**	The "idea of building machines" that are "capable of performing human tasks. " (6.)
AuI	**Augmented Intelligence**	"Intelligence amplification." " A tool to assist the clinician in the task." (8.)
ML	**Machine Learning**	"A subfield of AI, in which algorithms are applied to learn intrinsic statistical patterns in data which allows for predictions on unseen data. " (6.)
Algorithm		"A systematic procedure that produces—in a finite number of steps—the answer to a question or the solution of a problem. " (15.)
DL	**Deep Learning**	"A ML technique using multi-layer mathematical operations for learning inferring on complex data like imagery. " (6.)
NN	**Neural Networks**	"A type of DL" ... [engineered] ..."to solve a specific task like image classification. (6.)
AN	**Artificial Neuron**	"The main constituent of any NN" ; [it] "is a mathematical non-linear model that was inspired by the human neuron." (6.)
	Classification Task	"During the training process, **data points and corresponding labels** are repetitively passed through the NN." (6.)
	Regression Task	During the training process, **numerical results** are repetitively passed through the NN." (6.)
XAI	**Explainable AI**	The use of "various methods... to visualize, interpret and explain what AI systems are doing. "(6.)
	Hallucinations	More appropriately "Misinformation." Refers "to the generation of content that is not based on real or existing data but is instead produced by a machine learning model's extrapolation or creative interpretation of its training data."(20.) (14.)
CC	**Cognitive Computing**	"the use of computer systems to simulate human thought processes." (8.)
CV	**Computer Vision**	"uses [DL] to recognize patterns in images and videos." (8.)
ES	**Expert Systems**	Encode "human expert knowledge into explicit rules." (8.)
NLP	**Natural Language Processing**	"the use of AI/AuI to recognize ideas in speech and written language and to capture these ideas as digital data elements as well as to communicate with system users in ordinary language." (8.)
NNL	**Neural Network Learning**	A process in which "each input sample is tagged with a desired result and contributes to this training." (8.)
	Ground Truth	"Gold standard classification." "The accuracy of a training set's classification for supervised learning." (8.)
	Training Dataset	"provide[s] examples of the kinds of finding the network is to detect." (8.)
	Validation Dataset	Involves "testing against a [different] dataset of test cases, which operate as a gold standard." "It is critical that...expected findings be correct." (8.)
	Testing Dataset	" a 'holdout dataset' ...never before seen by the algorithm"... "used to verify the algorithm's ability to perform on new data." (8.)
	Specificity	Requires "the rate of false positives [to be] very low." (8.)
	Sensitivity	Requires "the rate of false negatives [to be] very low." (8.)

6. Schwendicke F, Samek W, Krois J. Artificial Intelligence in Dentistry: Chances and Challenges. J Dent Res. 2020 Jul;99(7):769-774.

8. American Dental Association SCDI White Paper No. 1106, Dentistry-Overview of Artificial Intelligence Uses in Dentistry.

14. UAB IT hosted Google execs and AI experts for series of AI meetings.

15. https://www.britannica.com/science/algorithm

20. Hatem R, Simmons B, Thornton JE. A Call to Address AI "Hallucinations" and How Healthcare Professionals Can Mitigate Their Risks. Cureus. 2023 Sep 5.