UNIVERSITY OF PENNSYLVANIA
RESEARCH SUBJECT
INFORMED CONSENT AND HIPAA AUTHORIZATION FORM

Protocol Title:	Association Between Early Candida Infection (Oral Thrush) and Severe Early Childhood Caries
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Sponsor	Colgate-Palmolive

Research Study Summary for Potential Subjects

Your child is invited to participate in a research study. Your child's participation is voluntary, and you should only allow your child to participate if you completely understand what the study requires and what the risks of participation are. You should ask the study team any questions you have related to participating before agreeing to join the study. If you have any questions about your child's rights as a human research participant at any time before, during or after participation, please contact the Institutional Review Board (IRB) at (215) 898-2614 for assistance.

The research study is being conducted to observe the relationship between early fungal infection in children's mouth and dental caries (cavities) onset/severity. We will also look at the oral microbiome changes over time. The microbiome is a collection of microorganisms that live on and in human body. These microorganisms include bacteria, fungi, and viruses.

If you agree to allow your child to join the study, your child will be scheduled to complete an initial screening, a baseline visit and 4 follow-up visits. All visits will occur at the School of Dental Medicine University of Pennsylvania. We will take dental plaque samples and collect data from you during the study.

Your child's participation will last for 2 years, including the time between visits.

You or your child are not expected to directly benefit from this study. The most common risks of participation are minor or rare discomforts from dental examinations during study procedures.

Please note that there are other factors to consider before agreeing to participate such as additional procedures, use of your child's personal information, costs, and other possible risks not discussed here. If you are interested in participating, a member of the study team will review the full information with you. You are free to decline or stop participation at any time during or after the initial consenting process.

Why is my child being asked to volunteer?

Your child is being invited to participate in a research study because he/she is a healthy child. The participation is voluntary which means you can choose whether you want your child to participate. If you choose not to participate, there will be no loss of benefits to which your child is otherwise entitled.

Before you can make your decision, you will need to know what the study is about, the possible risks and benefits of being in this study, and what we will do in this study. The research team is going to talk to you about the research study, and they will give you this consent form to read. You may also decide to discuss it with your family, friends, or your child's family doctor. You may find some of the medical language difficult to understand. Please ask the investigator and/or the research team about anything you do not understand.

If you decide to participate, you will be asked to sign this form. Your child's doctor may be an investigator in this research study. As an investigator, your child's doctor is interested both in your child's clinical welfare and in the conduct of this study. Before entering this study or at any time during the research, you may want to ask for a second opinion about your child's care from another doctor who is not an investigator in this study. You do not have to participate in any research study offered by your child's doctor.

What is the purpose of this research study?

Early childhood caries, or cavities, is the most common chronic disease of childhood, affecting 24% of preschoolers in the US alone. Children affected by severe cavities, younger than three years of age or with multiple cavities, is particularly problematic. A unique feature of cavities is the frequent isolation of Candida albicans (a fungus typically found in infections in the mouth, known as oral thrush) in the dental plaque, and its presence has been strongly correlated with the disease. A recent study showed that oral thrush is strongly associated with detection of cavities, particularly between 13 and 36 months of age. The proposed study is intended to investigate the association between early Candida infection (oral thrush) with the development of cavities. By gathering information about the relationship oral thrush and cavities, we may be able to improve the way we manage and treat cavities, and by understanding a child's history of thrush or fungal infection, we can make predictions about their risk for cavities.

How long will my child be in the study?

If you consent to participate, your child will participate for 2 years. This includes days that will lapse between the first screening/baseline visit and 4 follow-up visits.

What is my child being asked to do?

During your child's visit, we would like to examine the teeth and gums, and take samples of soft plaques on his/her teeth and swabs from buccal mucosa and tongue. We will do this by gently rubbing the sides of their front and back teeth as well as the mucosal surfaces. The samples will be used to test for the presence of certain bacteria and fungus. The plaque/oral swab collection will take less than 3 minutes, and the samples will be retained for analysis. We will also ask you about your child's dietary habits and oral hygiene. Every six (6) months, your child will be asked to come to our office for examination and plaque sample collection. Each visit is expected to take less than one hour.

Visit 1: Screening/Baseline

We will first ask you to consent to participate in this study. Upon providing consent, we will complete the screening/baseline visit (Visit 1) procedures to determine your child's eligibility to participate in the study. For this visit, we will complete, collect, or measure the following:

- Medical history/medications review
- Sociodemographic questionnaire (both child and parents)
- Oral health related behaviors review (dietary habits, oral hygiene, etc.)
- Soft tissue evaluation
- Caries examination
- Determine eligibility
- Dental plaque/oral swab collection
- Adverse events assessment
- Dentist notice/referral (if necessary)

Visits 2-5: 6-, 12-, 18- and 24-Month Examination (±1 Month)

- Medical history/medications update
- Soft tissue evaluation
- Caries examination
- Dental plaque/oral swab collection
- Adverse events assessment
- Dentist notice/referral (if necessary)

What are the possible risks or discomforts?

The possible risks and discomforts that may be associated with participation in this study are no different from those of a typical dental exam. The risks associated with minor and rare irritations from dental examinations will be reduced by having trained and licensed oral care professionals conduct the oral examination, following standard clinical procedures.

Any significant findings will be communicated to you and, when necessary, will include a referral to a dentist or a note to his/her dentist. We encourage you inform your child's regular dentist of his/her participation in this study. If your child experiences any problems, you should contact the study doctor at the telephone number listed on page one of this form.

What if new information becomes available about the study?

During the course of this study, we may find more information that could be important to you. This includes information that, once learned, might cause you to change your mind about being in the study. We will notify you as soon as possible if such information becomes available.

What are the possible benefits of the study?

You are not expected to get any benefit from being in this research study, except for the knowledge that this research could benefit other patients in the future.

What other choices do I have if I do not participate?

The alternative to participating is not to participate.

Will I be paid for being in this study?

You/your child may receive compensation for participation in this study. Eligible participants will receive $100 for the first visit, and $50 for the follow-up visits. Individuals who complete the whole study will receive $300 in total. You will be paid following each completed visit. Your compensation will be given to you via a Greenphire ClinCard, this is a reloadable pre-paid card. We will give you separate instructions on how to use the card. If you attend the first study visit and your child is found to be ineligible, you will receive $50.

Please note: In order to be compensated for your participation in this study, you must provide your Social Security Number. Additionally, please note that the University of Pennsylvania is required to report to the IRS any cumulative payments for participation in research studies that exceed a total of $600 in a calendar year.

If you do not have a Social Security Number, you will be compensated with Amazon gift cards.

Will I have to pay for anything?

All the study procedures and tests are covered by the study, and you will not have to pay for anything.

You are still responsible for any deductibles or applicable co-pays for routine office visits. Please talk to your doctor and study team about putting you in touch with a financial counselor to determine exactly what the deductible and co-pay will be for you; this is highly variable depending on your type of insurance.

What happens if my child is injured from being in the study?

We will offer you the care needed to treat injuries directly resulting from taking part in this research. We may bill your insurance company or other third parties, if appropriate, for the costs of the care you get for the injury, but you may also be responsible for some of them.

There are no plans for the University of Pennsylvania to pay you or give you other compensation for the injury. You do not give up your legal rights by signing this form. If you think your child has been injured as a result of taking part in this research study, contact the emergency contact or research coordinator of the research study as soon as possible. The researcher's name and phone number are listed on the first page of this consent form.

When is the Study over? Can my child leave the Study before it ends?

This study is expected to end after all participants have completed all visits, and all information has been collected. This study may also be stopped at any time by your child's physician, the study Sponsor without your consent because:

- The Primary Investigator feels it is necessary for your child's health or safety. Such an action would not require your consent, but you will be informed if such a decision is made and the reason for this decision.
- You have not followed study instructions.
- The Sponsor or the study Principal Investigator has decided to stop the study.

If you decide to participate, you are free to leave the study at any time. Withdrawal will not interfere with your future care. However, we may continue to collect information from your child's medical records unless you specifically withdraw authorization as noted below.

How will my child's personal information be protected during the study?

We will do our best to make sure that the personal information obtained during the course of this research study will be kept private. However, we cannot guarantee total privacy. Your child's personal information may be given out if required by law. If information from this study is published or presented at scientific meetings, your child's name and other personal information will not be used. The Institutional Review Board (IRB) at the University of Pennsylvania will have access to your records.

What may happen to my child's information and samples collected on this study?

Collection of Identifiable Specimens

Your child's samples may be used to create products, including some that may be sold and/or make money for others. If this happens, there are no plans to tell you, or to pay you, or to give any compensation to you or your family. Most uses of biospecimens or information do not lead to commercial products or to profit for anyone.

Future Use of Data and/or Specimens

Your child's information and samples will be coded. Coded means that all samples are assigned a unique random identifier. The information and samples could be stored and shared for future research in this coded fashion. It would not be possible for future

researchers, inside or outside the University of Pennsylvania to identify your child, as we would not share any identifiable information about your child with future researchers. This can be done without again seeking your consent in the future, as permitted by law. The future use of your child information and samples only applies to the information and samples collected on this study.

Electronic Medical Record and Release of Study Related Information

What is an Electronic Medical Record?

An Electronic Medical Record (EMR) is an electronic version of your medical chart within a health system. An EMR is simply a computerized version of a paper medical record.

If your child is receiving care or have received care within the School of Dental Medicine University of Pennsylvania and is participating in a University of Pennsylvania research study, information related to your child's participation in the research (i.e. clinical procedures) may be placed in the existing EMR maintained by PDM.

If your child has never received care within PDM and is participating in a University of Pennsylvania research study that uses PDM services, an EMR will be created for your child for the purpose of maintaining any information produced from your child's participation in this study. The creation of this EMR is a requirement of your child's participation in this study. In order to create your child's EMR, the study team will need to obtain basic information about your child that would be similar to the information you would provide the first time your child visits a hospital or medical facility (i.e. your child's name, the name of your child's primary doctor, the type of insurance your child has). Information related to your child's participation in the study may be placed in this EMR.

What may be placed in the EMR?

Information related to your child's participation in the research (e.g., notes from your child's physician, clinical procedures, etc.) may be placed in your child's EMR maintained by PDM.

Once placed in your child's EMR your child's information may be accessible to appropriate PDM workforce members that are not part of the research team. Information within your child's EMR may also be shared with others who are determined by PDM to be appropriate to have access to your child's EMR (e.g. Health Insurance Company, disability provider, etc.).

PDM also participates in automated information sharing through Health Information Exchanges (HIEs). HIEs securely share parts of your electronic health record, including research information, with other healthcare organizations involved in your care. This information is shared to improve the quality, safety and efficiency of your healthcare. To request that your health information not be shared through HIEs, please call 215-662-4484.

Will I, as a subject's guardian, have access to research related information within the EMR?

The 21st Century Cures Act requires healthcare institutions to allow patients increased access to their electronic medical record. Some information specific to this clinical research study may be shared with you in a delayed manner, shared with you at the end of the study, or not shared with you. Not sharing or delaying certain research information within your child's EMR may be necessary to protect the integrity of the study results or for other reasons.

Will I receive the results of research testing that may be relevant to my child's health?

Many of tests done in research studies are only for research and have no clear impact on your child's healthcare. Research results/data for this study will not be returned to you because they would not be relevant to your child's healthcare. Information may be entered into your child's research specific medical record.

What information about me and my child may be collected, used or shared with others?

The following information will be used or shared in connection with this study:

- Name, address, telephone number, date of birth
- Personal and family medical history
- Results from a physical examinations, tests or procedures
- Information in your child's medical record regarding medications and treatment

Why is my child and my information being used?

You and your child's information is used by the research team to contact you during the study. Your information and results of tests and procedures are used to:

- do the research
- oversee the research
- to see if the research was done right
- to evaluate and manage research functions.

Where may my child and my information be stored?

All paper source documents related to you and your child participation in this clinical research will be stored in a locked, secure area which is only accessible by authorized study personnel. You and your child's information may be held in other research databases.

Who may use and share information about me and my child?

The following individuals may use or share your information for this research study:

- The Principal investigator, study coordinators, other members of the research team, and personnel responsible for the support or oversight of the study
- Health care providers who provide services to your child in connection with this study, and laboratories or other individuals who analyze your child's health information in connection with this study

- Other research personnel with access to the databases for research and/or study coordination and as otherwise approved by the IRB

Who, outside of Penn Dental Medicine, might receive my child's information?

The funding sponsor: Colgate-Palmolive Company

Oversight organizations

- The Office of Human Research Protections
- The Study Data and Safety Monitoring Board

Once your child's personal health information is disclosed to others outside Penn Dental Medicine, it may no longer be covered by federal privacy protection regulations.

The Principal Investigator or study staff will inform you if there are any additions to the list above during your child's active participation in the study. Any additions will be subject to University of Pennsylvania procedures developed to protect your privacy.

How long may Penn Dental Medicine use or disclose my child's personal health information?

Your authorization for use of your child's personal health information for this specific study does not expire.

Your child's information may be held in a research database. However, Penn Dental Medicine may not re-use or re-disclose information collected in this study for a purpose other than this study unless:

- You have given written authorization
- The University of Pennsylvania's Institutional Review Board grants permission
- As permitted by law

Can I change my mind about giving permission for use of my child's information?

Yes. You may withdraw or take away your permission to use and disclose your child's health information at any time. You do this by sending written notice to the investigator for the study. If you withdraw your permission, your child will not be able to stay in this study.

What if I decide not to give permission to use and give out my child's health information?

Then your child will not be able to be in this research study.

You will be given a copy of this Research Subject HIPAA Authorization describing your confidentiality and privacy rights for this study.

By signing this document, you are permitting Penn Dental Medicine to use and disclose personal health information collected about your child for research purposes as described above.

Dental plaque samples and data storage for future research

As part of this research, we will collect dental plaque samples from your child. **If you do not agree to provide the dental plaque samples, your child will not be able to participate in this study**. We are also requesting to store your child's dental plaque samples for future studies.

Your child's samples will not be used for genetic testing. Your child's samples may be used create products, including some that may be sold and/or make money for others. If this happens, there are no plans to tell, or to pay you, or to give you compensation to you or your family.

Your child's sample will be stored indefinitely and housed in Biospecimen Repository Laboratory at Penn Dental Medicine. Your child's sample will not be identified by name. It will be coded (assigned a unique study number), which will allow the researchers to link your sample to the other information that you provide through questionnaires or other study activities. Only the Principal Investigator and qualified study personnel will have access to the identification key.

You will not be contacted when the stored samples will be used if you give permission for the investigators to store and use your child's sample. At this time, the nature of the future research is not known. We will not follow up with you to tell you about the specific research that will be done. We will not give you any results from these studies. It is possible that you may have chosen not to participate in these future research studies, had you been approached for participation.

If you revoke your consent to allow us to store your child's samples, we will discard your samples and not use them in future studies. Any data already collected from your samples prior to your request will be retained. To revoke your consent allowing us to store your samples, you must contact the Principal Investigator by either email or mail:

Yuan Liu, DDS, PhD
Schattner Building, 3rd floor, Room 330
240 South 40th Street
Philadelphia, PA19104
liuyuan1@upenn.edu
Phone: 215-573-6248

The University of Pennsylvania would also like to store, use, and share your child's health information from this study in research databases or registries for future research conducted by UPENN or its research partners. Such health information may include biological samples from the study. To give this additional permission, check the box below

and write your initials where indicated. Your child may still participate in this study even if you do not give us this additional permission.

Your child's information and samples may be shared with other researchers within Penn, or other research institutions. The University of Pennsylvania will continue to protect the confidentiality and privacy of this information as required by law and our institutional polices. If you give this additional permission, you will continue to have the rights described in this form. You have the right to take back this additional permission at any time.

There is a risk of breach of confidentiality (unintentional release of your child's information). We will do our best to make sure that this does not happen. However, we cannot guarantee total privacy. We will protect your confidentiality during storage and sharing by using coding system as described above.

You will likely not directly benefit from future research with your child's information and samples. Research with your identifiable information and samples may help others by improving our understanding of health and disease, improving healthcare and making safer or more effective therapies, and developing new scientific knowledge.

☐ Checking this box indicates that I give my permission to store, use, and share my child's health information and samples from this study for future research conducted by UPENN or its research partners.

Subject's guardian initials _____

☐ Checking this box indicates that I DO NOT give my permission to store, use, and share my child's health information and samples from this study for future research conducted by UPENN or its research partners.

Subject's guardian initials _____

Who can I call with questions, complaints or if I'm concerned about my rights as a research subject?

If you have questions, concerns or complaints regarding your child's participation in this research study or if you have any questions about your/your child's rights as a research subject, you should speak with the Principal Investigator listed on page one of this form. If a member of the research team cannot be reached or you want to talk to someone other than those working on the study, you may contact the Office of Regulatory Affairs with any question, concerns or complaints at the University of Pennsylvania by calling (215) 898-2614.

When you sign this form, you are agreeing to let your child to take part in this research study. This means that you have read the consent form, your questions have been answered, and you have decided to volunteer. Your signature also means that you are permitting the University of Pennsylvania to use your child's personal health information collected about your child for research purposes within our institution. You are also allowing the University of Pennsylvania to disclose that personal health information to outside organizations or people involved with the operations of this study.

A copy of this consent form will be given to you.

_____ _____
Participant's Printed Name Age

Parent/Legal Guardian's Consent for the child's participation:

_____ _____ _____
Parent/Legal Guardian's Printed Name Parent/Legal Guardian's Signature Date

Relation: ☐ Mother ☐ Father ☐ Legal Guardian

_____ _____
Name of Person Obtaining Consent (Please Print) Signature Date