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CONSENT TO ACT AS A SUBJECT IN A RESEARCH STUDY

STUDY TITLE: Sleep, Hypertension, and Nocturia: a Multicomponent Approach for Comorbid Illnesses

SHyN Study

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If you have any questions about your rights as a research subject or wish to talk to someone other the research team, please call the University of Pittsburgh Human Subjects Protection Advocate toll-free at 866-212-2668.

SOURCE OF SUPPORT: NIH (National Institute on Aging)

Key Information:

- You are being asked to take part in a research study. Research Studies include only people who choose to take part. The study team members will explain the study to you and will answer any questions you might have. You should take your time to make your decision
- This is a study to better understand the role of sleep and timing of medication administration on daytime and nighttime blood pressure control.
- The first visit will last 2-3 hours and you will undergo a full health history, short physical exam, ultrasound bladder scan and return home with devices to monitor your blood pressure and sleep at home.
- As part of the study, if you are to receive behavioral sleep treatment, you will be asked to come for two additional visits 2 weeks apart. These visits will be 30-45 minutes long.
- Risks include potential for missing medication since you may be asked to change the time of administration of your blood pressure medication. We will ensure you have reminders regarding the change in the time of medication administration. You will also receive follow-up phone calls with many opportunities to share any concerns or ask questions.
- There will be no direct benefit to you from participating in the study. However, this study will help researchers learn more about the role of sleep in blood pressure treatment, and it is hoped that this information will help in the treatment of future patients with conditions like yours.
- If you decide not to participate in this research, your other choices may include:
    - Continue with your current treatment
    - Taking part in another study

Why is this research being done?

We would like your permission to enroll you in a research study. Its purpose is to improve our understanding of impact of sleep and frequent nighttime awakenings to urinate among those over the age of 65 and how improving sleep affects nighttime as well as daytime blood pressure control.

If you agree to participate, and are eligible, you may be randomly assigned to one of three groups for the study duration of 6 weeks:

i) morning (am) HTN medication dosing. If randomized to this group, you will continue to take your blood pressure medication within an hour of awakening.

ii) BBTI (with am HTN medication administration). If randomized to this group, you will receive a 4-week behavioral sleep intervention. You will continue to take your blood pressure medication within an hour of awakening.

iii) nighttime (pm) non-diuretic HTN medication dosing or chronotherapy. If randomized to this group, you will be asked to switch the timing of your blood pressure medication to bedtime.

You will have an equal chance to be assigned to either group (like the flip of a coin). We will call every other week to provide support, answer any queries, troubleshoot if you have any study related issues, and assess any change in your health during the study duration. These phone calls will last 10 minutes or less.

You will also be asked to complete research related assessments at home at two different time points—before and after the intervention.

Who is being asked to take part in this research study?

People aged 65 years and older who have poor sleep, wake up >2 times a night to urinate, and are being treated for high blood pressure will be asked to participate. The study will enroll 30 participants for the research procedures.

First study visit – Screening/enrollment

This visit at the Continence Research Unit on the 5th floor of Montefiore Hospital will last approximately 2 -3 hours. It consists of the following:

- An introduction to the study, and how you will participate, and we will ask you to sign consent forms.
- Health, sleep and bladder history: Collect information about you, your medical history, particularly your sleep and bladder habits in detail. We also will ask questions to test your mental ability.
- Physical examination: A short physical examination.
- Postvoid residual: We will ask you to empty your bladder then will measure what remains in the bladder by ultrasound. Ultrasound is a non-invasive procedure during which we place a small amount clear jelly to lower abdomen and then use a probe or transducer placed over the jelly to check for any residual urine in bladder.
- 3-day bladder-sleep diary: If you qualify to be in the study, we will ask you to keep a record of your sleep and voids for 3 days after you get home.
- Zmachine®: For the duration of the sleep diary, you will be asked to wear Zmachine while sleeping. Zmachine® is an FDA approved, easy-to-use home sleep testing device that determines the sleep stage of the user as wake, light sleep, or deep sleep. The sleep staging output is updated every 30 seconds throughout the recording. Zmachine® is a small rectangular device that is worn over chest with a belt over clothing. The device or the belt is not to have any contact with skin.
- Ambulatory Blood Pressure Monitor (ABPM): ABPM is a non-invasive FDA-approved, diagnostic test that is used clinically and in research setting to track blood pressure over 24-hour cycles, allowing assessment of a patient's blood pressure during routine daily living, instead of periodic checks in clinic. ABPM provides the most comprehensive evaluation of hypertension and has been used to assess and treat hypertension. Participants will be asked to wear the monitor for 2 days each at baseline and at the end of the study.

You will be given an addressed envelope to return Zmachine, ABPM devices and complete diary back to study personnel. Once we receive the devices and completed bladder-sleep diary, you will be randomized to either of three groups as mentioned in the next section.

Study Intervention

You will be randomly assigned to either of the following groups:

AM Med dosing (AMD)
If randomized to the AMD group you will asked to continue taking your blood pressure medications as prescribed: within an hour of awakening

PM Med dosing (PMD)
If randomized to the PMD group you will asked to switch your conventional once daily blood pressure medication to bedtime. You will be provided detailed instructions regarding the change in medication administration and will have ample opportunity to ask questions.

Brief Behavioral Treatment of Insomnia (BBTI)
The behavioral sleep intervention we utilize for our study is BBTI. It was developed locally by the researchers at Western Psychiatry Institute and Clinic. The BBTI consists of a 45- to 60-minute individual intervention session followed by a 30-minute follow-up session 2 weeks later and 20-minute telephone calls after 1 and 3 weeks. BBTI intervention includesand discussion of human sleep regulation by the day-night cycle and individual's internal biological clock, and focuses on behaviors that promote sleep. The intervention will be delivered by our study RN Kandy Newell.
Participants will also be asked to continue taking their antihypertensive medication within an hour of awakening

All participants will receive "check-in" calls every other week where we will provide support and address any concerns you may have regarding the changes made in accordance with your group assignment.

Study Follow-up

Post 6-week intervention you will be asked to repeat the in-home BP, sleep, and bladder assessments you completed after the first study visit including ABPM, 3-day bladder diary, and Zmachine.

What are the possible risks, side effects, and discomforts of this research study?

Risks with research related procedures

Bladder ultrasound may cause some discomfort as the probe is pressed on lower abdomen to assess residual urine. We will complete the procedure with all safety measures and avoid any deep probing.

Zmachine® is a non-invasive device that is worn on an adjustable belt around the chest over a clothing. The device or belt will not have any skin contact. It does not cause any pain or discomfort; however, it may feel uncomfortable and cause sleep interruption.

Ambulatory blood pressure monitor (ABPM) is a non-invasive device that includes a blood pressure cuff worn around upper non-dominant arm. Since it inflates periodically just like an clinic blood pressure cuff, over 2448-hour duration it may cause arm discomfort or sleep interruption with overnight automated blood pressure checks.

Change in timing of blood pressure medication administration may result in missed doses resulting in blood pressure elevation. At the randomization visit, we will ensure to put safety reminders regarding the change in timing of medication administration and follow-up with the participants to ensure compliance and troubleshoot any barriers to adherence.

Brief behavioral treatment for Insomnia addresses poor sleep and participants may encounter daytime sleepiness with change to time in bed. With protocol adherence these symptoms resolve with good night sleep. We will also follow with “check-in” phone calls to address persistent issues.

Breach of confidentiality

Since we store personal information about you, there is a risk of breach of confidentiality. To protect against this, paper-based records are kept in a secure location and are accessible only to personnel involved in the study. Computer-based files will be made available only to personnel involved in the study through the use of access privileges and passwords. Prior to being granted access to any study-related information, personnel will be required to sign statements agreeing to protect the security and confidentiality of such information. Whenever feasible, identifiers will be removed from study-related information.

Certificate of Confidentiality

To help us protect your privacy, we have obtained a Certificate of Confidentiality from the National Institutes of Health. The researchers can use this Certificate to legally refuse to disclose information that may identify you in any federal, state, or local civil, criminal, administrative, legislative, or other proceedings, for example, if there is a court subpoena. The researchers will use the Certificate to resist any demands for information that would identify you, except as explained below.

The Certificate cannot be used to resist a demand for information from personnel of the United States Government that is used for auditing or evaluation of federally-funded projects or for information that must be disclosed in order to meet the requirements of the federal Food and Drug Administration (FDA).

You should understand that a Certificate of Confidentiality does not prevent you or a member of your family from voluntarily releasing information about yourself or your involvement in this research. If an insurer, employer, or other person obtains your written consent to receive research information, then the researchers may not use the Certificate to withhold that information.

What are possible benefits from taking part in this study?

There are no direct benefits to you from taking part in the study. However, you may experience some satisfaction from taking part in a study that may ultimately improve understanding of increased nighttime urine production in the elderly.

If I agree to take part in this research study, will I be told of any new risks that may be found during the study?

You will be promptly notified if any new information, either good or bad, about the procedures we are using develops during this study and might cause you to change your mind about continuing to participate.

Will my insurance provider or I be charged for the costs of any procedures performed as part of this research study?

Neither you nor your third-party insurance provider will be billed for any of the research procedures. The study will pay for all research services and procedures, including laboratory tests, or any study related procedures.

Will I be paid if I take part in this research study?
You will be compensated a total of $100 for taking part in this research study as follows.

- $50 on completion of study visit 1
- $50 on completion of post-intervention study procedures

Participants will be paid using a pre-loaded debit card.

Since you are being compensated for your participation in this study, your name, address, and social security number will be released to the Accounting Office. If the total reimbursement for your participation in research is greater than $600 in a year, this will be reported to the Internal Revenue Service (IRS) as income.

Who will pay if I am injured as a result of taking part in this study?
University of Pittsburgh investigators and their associates who provide services at the UPMC recognize the importance of your voluntary participation to their research studies. These individuals and their staffs will make reasonable efforts to minimize, control, and treat any injuries that may arise as a result of this research.
If you believe that you are injured as a result of the research procedures being performed, please contact immediately the Principal Investigator listed on the cover sheet of this form. Emergency medical treatment for injuries solely and directly relating to your participation in this research will be provided to you by hospitals of the UPMC. It is possible that the UPMC may bill your insurance provider for the costs of this emergency treatment, but none of these costs will be charged directly to you. If your research-related injury requires medical care beyond this emergency treatment, you will be responsible for the costs of this follow-up care. There is no plan for monetary compensation. You do not, however, waive any legal rights by signing this form.

Who will know about my participation in this research study?

All written and printed records about your involvement in this research study will be stored in a file cabinet in a secure area in the continence research unit. This information will be accessible to the investigators listed on the first page of this form and their research study staff. Computer records will be kept on a password-protected computer in the same suite.

If we publish the results of the study, the publications will not include any information that would make it possible to identify you.

Will research data be placed in the medical record?
We will not access your medical records or place any research related information in your medical record. During the course of this research study if we find any abnormal results, for example, if you screen positive for severe sleep apnea, you will be notified of the results. We will offer referral for further evaluation and treatment for sleep apnea and you will be advised to follow-up with their primary care providers.

Who will have access to identifiable information related to my participation in this

research study?
In addition to the investigators listed on the first page of this authorization (consent) form and their research staff, the following individuals will or may have access to your identifiable medical record information related to your participation in this research study:

- Authorized representatives of the University of Pittsburgh Office of Research Protections may review your identifiable medical record information for the purpose of monitoring the appropriate conduct of this research study.
- Authorized representatives of the UPMC hospitals or other affiliated health care providers may have access to your identifiable medical record information in the event of an emergency.
- If the investigators learn that you or someone with whom you are involved is in serious danger or potential harm, they will need to inform, as required by Pennsylvania law, the appropriate agencies.
- Authorized representatives of the sponsor of the study, National Institutes of Health/ National Institute of Aging, may review or obtain your identifiable information (which may include identifiable medical record information) for the purpose of monitoring the accuracy and completeness of the research data and for performing required scientific analyses of the research data. While the NIH understands the importance of maintaining the confidentiality of your identifiable medical record information, UPMC and the University of Pittsburgh cannot guarantee the confidentiality of this information after it has been obtained by the NIH.
- Authorized representatives of Office for Human Research Protections (OHRP) may review your data.
- De-identified data may be shared in the future with investigators with similar interests
- *A description of this clinical trial will be available on http://www.clinicaltrials.gov, as required by US Law. This website will not include information that can identify you. At most, the website will include a summary of the results. You can search this website at any time.*
- Your research information may be shared with investigators conducting other research. This information may be identifiable
- Your information (even if identifiers are removed) may be used for commercial profit; however, you will not retain any property rights, nor will you share in any money that the investigators, the University of Pittsburgh, or outside agencies may receive

For how long will the investigators be permitted to use and disclose identifiable information related to my participation in this research study?
The investigators may continue to use and disclose, for the purposes described above, identifiable information (which may include your identifiable medical information) related to your participation in this research study for as long as it may take to complete this research study. Per the University of Pittsburgh policy, we will maintain records for at least 7 years following final publication or reporting of a project.

May I have access to my medical information that results from my participation in this research study?
In accordance with the UPMC Notices of Privacy Practices document that you have been provided, you are permitted access to information (including information resulting from your

participation in this research study) contained within your medical records filed with your health care provider.

Is my participation in this research study voluntary?
Your participation in this research study, to include the use and disclosure of your identifiable information for the purposes described above, is completely voluntary. (Note, however, that if you do not provide your consent for the use and disclosure of your identifiable information for the purposes described above, you will not be allowed, in general, to participate in the research study.)
Whether or not you provide your consent for participation in this research study will have no effect on your current or future relationship with the University of Pittsburgh. Whether or not you provide your consent for participation in this research study will have no effect on your current or future medical care at a UPMC hospital or affiliated health care provider or your current or future relationship with a health care insurance provider.

May I withdraw, at a future date, my consent for participation in this research study?
You may withdraw, at any time, your consent for participation in this research study, to include the use and disclosure of your identifiable information for the purposes described above. (Note, however, that if you withdraw your consent for the use and disclosure of your identifiable medical record information for the purposes described above, you will also be withdrawn, in general, from further participation in this research study.) Any identifiable research or medical information recorded for, or resulting from, your participation in this research study prior to the date that you formally withdrew your consent may continue to be used and disclosed by the investigators for the purposes described above.
To formally withdraw your consent for participation in this research study you should provide a written and dated notice of this decision to the principal investigator of this research study at the address listed on the first page of this form.
Your decision to withdraw your consent for participation in this research study will have no effect on your current or future relationship with the University of Pittsburgh. Your decision to withdraw your consent for participation in this research study will have no effect on your current or future medical care at a UPMC hospital or affiliated health care provider or your current or future relationship with a health care insurance provider.

If I agree to take part in this research study, can I be removed from the study without my consent?
It is possible that you may be removed from the research study by the researchers for a number of different reasons: for example, if you are unable to complete the bladder-sleep diary.

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VOLUNTARY CONSENT

All of the above has been explained to me and all of my current questions have been answered. I understand that I am encouraged to ask questions about any aspect of this research study during the course of this study, and that such future questions will be answered by a qualified individual or by the investigators(s) listed on the first page of this consent document at the telephone number(s) given. I understand that I may always request that my questions, concerns, or complaints be addressed by a listed physician investigator.

I understand that I may contact the Human Subjects Protection Advocate of the IRB Office, University of Pittsburgh (1-866-212-2668) to discuss problems, concerns, and questions; obtain information

By signing this form, I agree to participate in this research study for the purposes described above. A copy of this consent form will be given to me.

_____	_____
Participant's Name (Printed)	Date
_____	_____
Participant's Signature	Time

CERTIFICATION of INFORMED CONSENT

I certify that I have explained the nature and purpose of this research study to the above-named individual(s), and I have discussed the potential benefits and possible risks of study participation. Any questions the individual(s) have about this study have been answered, and we will always be available to address future questions as they arise. I further certify that no research component of this protocol was begun until after this consent form was signed.

_____	_____
Printed Name of Person Obtaining Consent	Role in Research Study
_____	_____
Signature of Person Obtaining Consent	Date

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