Protocols Relating to NAD

- **What is NAD?**
    - Nicontinamide Adenine Dinucleotide is a coenzyme central to metabolism.
    - It is found in all living cells and consists of two nucleotides joined through their phosphate groups.
    - NAD acts as a coenzyme for redox reactions, making it central to energy metabolism.
- **What is NAD used for?**
    - Improves cognitive function, energy, weight management, reduces pain, can reduce and reverse some aging and more.
    - It does this as a key function of our cells in the mitochondria that converts food to energy and maintains the integrity of our DNA.
    - NAD aids in the production of ATP.
    - It has a plethora of benefits, from improving athletic performance, reducing fatigue, high cholesterol, mood, blood pressure, slowly reduces aging, neurodegenerative diseases and reversing alcohol effects on the liver.
    - It's mechanism of action as a coenzyme is part of the oxidoreductases in our body, which gives it the broad range of effects
- **What are Contraindications to getting NAD?**
    - **History of Cancer or significant family history of Cancer, genetic predisposition-as determined by Medical Director in consult**
    - **Cardiovascular disease-History of severe heart failure, multiple medicated hypertension, and arrythmagenic issues-as determined by Medical Director in consult**
    - **Pregnancy** (there is no safety data for use of NAD in pregnant clients); client must attest they are not pregnant to receive NAD infusion(intravenous "IV")/intramuscular injection ("IM")/subcutaneous injection ("SQ"); if client is not absolutely positive she is not pregnant, then postponement and a client's self-administered pregnancy test is recommended prior to beginning any course of NAD IV/IM/SQ
    - **Breastfeeding** (there is no safety data for use of NAD in clients who are regularly engaged in breastfeeding a child); client must attest they are not breastfeeding to receive NAD IV/IM/SQ
- **Important Requirements for Administrators of NAD**
    - Training- Watch the NAD Webinar
    - Review the NAD Protocol
    - Complete the NAD comprehension Quiz with in the app
        - The Quiz may need to be reviewed and completed every 6-12 months

NAD Patient Specific RX 503A (Vendor is State Dependent)

- **Important Pre-Appointment Requirements for NAD:**
    - Client request NAD+.
        - They should complete NAD intake form and consent by booking through the app
        - Reminder: pregnancy, breastfeeding mothers,
            - Certain cancer histories or genetic predispositions, and Cardiovascular risks are contraindicated, based on Medical Director determination
    - Once NAD intake form and consent are completed by client- they will schedule their patient consultation through the app
    - Once consult is complete the prescriber sends the prescription to the pharmacy for fulfillment.
    - NAD Patient Specific Prescription usually arrives to location -
        - NAD that is patient specific will be shipped to the patient themselves. UNLESS- you are approved by Hydreight Medical team
        - If you have a brick and mortar, and are approved, then NAD will be shipped to the administering partner, under the patient's name. This NAD is ONLY to be used for the patient whose name is on the label.
            - It is a felony to use/share a prescription on/with someone else.
        - Storage: Reminder you need to have safe storage for NAD, which is refrigerated once reconstituted. These vials have patient specific, PHI (protected health information), on them.
            - A locked refrigerator with a temperature log should be maintained
                - Any temperature excursion outside of labeled requirements should result in a call to the pharmacy who manufactured the product for next steps or disposal.
        - Follow up patient consults will be required for continuation of NAD every 3 months

    - Client may schedule once you have confirmation that prescription is sent and being shipped or once your location has received prescription. Please keep in mind if you schedule a client before the prescription has arrived, you do run the risk of the prescription not arriving on time.

<u>NAD Office Use allowed-503B</u>

<u>Olympia (all states except CA, MS) and Empower (includes MS)</u>

- <u>After intake and approval by the medical provider proceed below</u>

- Once NAD intake form and consent are completed by client- they will schedule their patient consultation through the app

<u>Anazao (all states except AL)</u>

- <u>After intake and approval by the medical provider proceed below</u>
  - Once NAD intake form and consent are completed by client- they will schedule their patient consultation through the app

- **Important Pre-Infusion/IM Requirements for NAD IV/IM/SQ**
  - Verify completion of intake forms, NAD pre-screening, telehealth appointment, Informed Consent and any other applicable agreement, consent or other client document.
  - Review NAD IV/IM/SQ procedure, risks/dangers, adverse reactions, side effects or complications with client prior to initial NAD IV/IM/SQ.
  - Review Emergency Protocol with client prior to initial NAD IV/IM/SQ
  - Remind client of mandatory 15 minute post-infusion monitoring period (for initial and repeat NAD IV/IM/SQ).
  - Follow up patient consults will be required for continuation of NAD every 3 months

- **Important Drip Requirements for NAD IV:**
  - NAD must be reconstituted with bacteriostatic water prior to injection into the 500mL normal saline bag. Please follow manufacturer guidelines for reconstitution (label vial with BUD, beyond use date, for 28 days).
  - NAD cannot be mixed and infused with any other medications, vitamins, or minerals (i.e., in the same infusion bag)

- **NAD Infusion Protocol:**
  - Obtain Vital Signs
    - HR, BP, O2 Sats,Pulse, Temp
  - Starting dose for NAD is 125mg
    - BE MINDFUL and PAY ATTENTION to them as you titrate up.
    - Drip rate- should not initially exceed 2ml/minute. The standard is not more than 35 drops per minute, which is just over 1.5ml, but some patients may tolerate faster. START SLOW
      - Patient may tolerate faster than 2ml, this is ok as long as the patient is not reporting ANY side effects
      - Plan for extra time for new patients

- Clients are slowly titrated up in 25mg increments- this is based on client tolerance of infusion.
- Monitor patient during and for 15 minutes after infusion
- Max dose to be given per infusion is 500 mg
- Max weekly NAD dosing is 500mg (Two 250 mg drips on separate days or a 500mg drip)
    - Unless getting IM shots then take into account IM shots for Max weekly dosing of 500mg
- Max monthly NAD dosing is 1,000 mg. (Four 250 mg on separate days or two 500mg Drips at least a week apart)
    - Unless getting IM shots, then take into account IM shots for Max monthly dosing of 2000mg
- Infusions and IM shots should be at least 2 if not 3-4 days apart

- **NAD IM/SQ Protocol:**
    - NAD must be reconstituted with bacteriostatic water prior to injection. Please follow manufacturer guidelines for reconstitution (label vial with BUD for 28 days).
        - Starting dose will be determined with consult. Somewhere between 25-50mg
            - BE MINDFUL and PAY ATTENTION to them as you titrate up.
        - The patient should then be increased by 25mg increments- this is based on client tolerance of injections
        - Max IM/SQ dose of 100mg
        - Max weekly IM/SQ dose of 200mg.
        - Total weekly dose max of 500mg (this includes IV and IM/SQ)
            - Take into account total weekly dose if getting a NAD IM and infusion
        - Infusions and IM/SQ shots should be at least 2 if not 3-4 days apart
        - ***For the IM/SQ shot monitor the patient for 15-20 minutes post injection. ***
- **MAX Dosing Titration schedules**
        - Max dose to be given per infusion is 500 mg
        - Max weekly NAD dosing is 500mg (Two 250 mg drips on separate days or 500mg once)
            - Unless getting IM/SQ shots then take into account IM/SQ shots for Max weekly dosing of 500mg

        - Max monthly NAD dosing is 1,000 mg. (Four 250 mg on separate days or two 500mg drips at least a week apart)
            - Unless getting IM/SQ shots, then take into account IM shots for Max monthly dosing of 2000mg

    - **If doing both IV and IM/SQ NAD dosing for a client:**
        - Take EXTRA PRECAUTION the client does not get and IV and IM/SQ shot on back to back days. They must be separated by 2-3 days.
            - Example
                - Monday 125mg IV, Thurs 25mg IM/SQ, Sun 150mg IV
                - Wed 50mg IM/SQ, Saturday 175mg IV
                - Tues 75mg IM/SQ, Friday 200mg IV
                - Monday 100mg IM/SQ, Thurs 225mg IV
            - Example once tolerates 100mg IM/SQ and 250mg IV
                - Alternates 250mg IV on weeks 1,3 and 100mg IM/SQ twice weekly on weeks 2,4
            - Example
                - 100mg IM/SQ - M,F-week 1
                - 500mg IV end of week 2
                - 100mg IM/SQ end of week 3 and middle week 4

- **Mandatory Post-Infusion/IM/SQ Monitoring Period:** Monitor and document the client's vital signs for a minimum of 15 minutes after the first infusion/IM/SQ injection ends, or any subsequent infusion/IM/SQ injection where the dose has been increased.
    - For routine infusions/IM/SQ Injections after the initial infusion/IM/SQ injection, need only monitor and document the client's vital signs for a minimum of 15 minutes after the treatment.
    - Clients should be advised of the applicable minimum monitoring period and that it is required for client safety (and, if they are driving from their appointment, others' safety).
    - If a client leaves the monitoring protocol before expiration of the required time, their early departure notwithstanding the minimum monitoring period should be noted.
- **Emergency Protocol**
    - Client to proceed, or if necessary client to be sent, to the emergency room at a local hospital; OR
    - Client to proceed, or if necessary client to be sent, to local urgent care center; OR

- Client to call, or if necessary call on behalf of client, 9-1-1 emergency telephone number; OR
- Client to call, client's regular, independent physician or other qualified healthcare provider
- See Post-Emergency Protocol Below also.

- **Adverse Reactions, Complications and Side Effects of NAD Infusion/IM/SQ:**
  - Clients and clinicians should be prepared to follow the Emergency Protocol – and see a doctor IMMEDIATELY – if the NAD IV/IM/SQ client experiences any one or more of the below adverse reactions, side effects or complications during, immediately after or within 12-hours after completing an NAD IV/IM/SQ.
    - If any of these occur during the infusion, stop the infusion, and enact Emergency Protocol. Commence monitoring period and monitor and document client's vital signs. Contact your medical director after commencing Emergency Protocol.
    - If any of these occur during the monitoring period after the infusion/IM injection, enact Emergency Protocol. Continue monitoring and documenting client's vital signs. Contact your medical director after commencing Emergency Protocol.
    - If any of these occur after the monitoring period and within 12 hours after the infusion/IM injection then the client should enact and enact Emergency Protocol. Client should contact business partner or associate who administered NAD IV/IM/SQ Injection as provided below in "Post-Emergency Protocol".
  - Adverse Reactions, Side Effects or Complications for Emergency Protocol

Some Potential Adverse Reactions, Side Effects or Complications to NAD

LIST ALL

Headaches	Malaise	Difficulty Breathing*
Malaise	Sensations that can mimic	**Shortness of Breath**
Chest Heaviness	feelings of a panic attack, etc.	
Tremors*	Insomnia	
Flushes*	Anxiety	Dizziness
Fainting		Nausea
Nausea		
Irregular Sweating		Irregular Weakness
Tingling Sensation		Heart Rate Changes
		Skin Rash

* Denotes potential NAD toxicity (allergic hypersensitivity)

Some General IV Infusion Side Effects or Complications		
Infusion-Site Effects*	Headache	Nausea/Upset Stomach
Indigestion/Heartburn	Mild Diarrhea	Joint Pain
Vein Inflammation	Lightheadedness	Increased Thirst
Dizziness	Chills	Severe Fatigue
Infection	Fever	Shakes

* Infusion-site effects may include, without limitation, temporary pain, burning, bruising, blood, cellulitis or discoloration at the site of infusion.

- **Post-Emergency Protocol** – After the Emergency Protocol,
    - Client to service provider, and service provider will prepare and complete an incident report by phone to be submitted on the app under specific client profile.
    - If the client does not complete a report, business partner or associate partner then will coordinate completion of relevant portions of the report with its Medical Director without client input.
    - Final incident report shall be submitted directly to the medical director email, and thru the app.

- **Tips**
    - You may have inquiries for up to 1000mg. There is not currently data supporting doses greater than 500mg. Please educate the patient for safety purposes you are happy to incrementally increase them to the appropriate dose for their body within the prescribers instructions on THEIR specific vial.

Disclaimer: *This protocol is intended solely for use by licensed healthcare professionals trained in the administration and oversight of peptide therapies. It is provided as a guide and does not constitute medical advice, nor does it replace individualized medical judgment or the need for patient-specific assessment and supervision. All dosing schedules, reconstitution instructions, contraindications, and monitoring procedures must be interpreted and applied in accordance with the practitioner's professional training, applicable state and federal regulations, and the prescribing provider's clinical discretion.*

This document does not establish a provider-patient relationship or serve as a substitute for comprehensive medical evaluation. It is the responsibility of the service provider and prescribing healthcare professional to ensure proper patient screening, informed consent, and adherence to all follow-up and safety protocols, including emergency response procedures

Additional Resources

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7963035/#:~:text=Nicotinamide%20adenine%20dinucleotide%20(NAD%2B),(ADP%2Dribose)%20polymerases.

For trained medical personnel only. Not a substitute for clinical judgment. Not to be used for clients who are pregnant or breastfeeding.

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- https://www.nad.com/news/nad-iv-drip-therapy
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- https://www.fda.gov/drugs/human-drug-compounding/fda-highlights-concerns-compounding-drug-products-medical-offices-and-clinics-under-insanitary
- https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7278809/
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