

# Guidelines: Discharge Instructions for Covid-19 Patients

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## Abstract

**Introduction/Objectives:** Clinicians treating COVID-19 patients face a major challenge in providing an effective relationship with patients who are discharged to return to home in order to optimize patient self-management after discharge. The purpose of these discharge instructions is to assist and provide guidance for physicians, nurses, and other health care personnel involved in discharging COVID-19 patients to home after encounters at hospitals, emergency departments, urgent care settings, and medical offices. **Methods:** A systematic literature-search of studies evaluating both symptoms and signs of COVID-19 was performed in order to establish specific optimal performance criteria in monitoring a patient's status with regard to disease safety. These optimal performance criteria parameters were considered with regard to the severity of morbidity and mortality. Strategies used to develop the discharge instructions included review of a broad spectrum of literature to develop the discharge criteria. **Results:** These guidelines are presented for patient education and should achieve the essential goals including: enabling patients to understand their medical situation, preventing complications, supporting patients by providing instructions, helping patients make more effective use of available health services, and managing patient stress by giving patients comfort through the knowledge of specific recommendations including how to respond to situations. **Conclusion:** The COVID-19 pandemic requires clinicians to efficiently teach their patients self-management strategies and to provide a safe educated response to the patient and the surrounding community environment. The primary goal of the patient education discharge-instructions (PEDI) is to provide self-management strategies for preventing complications and disease transmission.

## Keywords

anxiety, community health, disease management, efficiency, triage, COVID-19, guidelines, discharge instructions

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## Introduction

Hospitals, emergency departments, urgent care centers, and medical offices all across America are facing a major public health safety crisis related to the management of the coronavirus disease 2019 (COVID-19) pandemic. Healthcare facilities need to have a consistent patient educational response in order to minimize the impact of the COVID-19 disease when patients are discharged to home. This is required to restrict and limit disease spread and the morbidity and mortality of the families and people to which these COVID-19 positive patients are being returned. A key component of the healthcare system is the ability to institute prompt detection, effective triage, isolation of potentially infected patients, and discharging patients to home safely with the goal of preventing unnecessary community exposure.

The vast majority of suspected COVID-19 patients experience only mild symptoms<sup>1</sup> and accordingly will be

discharged to home with instructions to self-isolate while awaiting their test results and/or completing their recovery. Patients who test positive are advised to stay at home

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provided they are not experiencing complications and require follow-up care. Even those who have sought medical advice and tested COVID-19 negative must be warned that they remain at risk for the disease.<sup>2</sup> Preventing healthcare system overload depends on a patient's ability to care for themselves at home while minimizing the risk of infecting their families and others.

Even with vaccination, it is important to follow guidelines which focus on self-management strategies, symptom monitoring, appropriate and frequent hand hygiene, cough etiquette, social distancing, and strict self-isolation. Understandable instructions that promote compliance with guidelines must be at the center of the healthcare response especially when it comes to patient education. Triage is a key opportunity to begin the process of educating COVID-19 patients about the disease process and the steps necessary to prevent disease transmission. This educational process continues through discharge. Time constraints in the discharge setting can be overcome through standardized discharge instructions to improve future patient coherence. Patient education with written instructions can help health professionals (primary care physicians) who receive communications from patients and arrange for remote triage. Many times, and unavoidably, patients in the hospital setting, emergency room, urgent care center and medical office hospital setting often may be meeting the treating physician for the first time. Offering education is challenging in this context where clinicians may lack the skills or the time necessary to provide the basic necessary education. Accordingly, these guidelines represent a support tool that can serve as an important point of reference.

Patient education can be a key component against COVID-19, where healthcare providers have no clear guidance on how to proceed. Accordingly, these guidelines can provide basic, in person and remote patient, education to suspected or confirmed cases of COVID-19 in patients who are instructed to self-isolate at home.

Patients are admitted to the hospital who require special attention, will complete their hospital admission, and require discharge instructions for home. Patients need to understand that throughout the pandemic, discharge communications may be reduced to a brief exchange, leaving patients uncertain about what to do when they return to home. This is especially true for patients with no medical background. The guidelines contained herein (Appendix), serve as a practical, straight forward protocol, that improves the requirements for effective discharge. These guidelines consist of ten steps that clinicians and patients can use to develop a structured approach to discharge instructions.

As patients are preparing for discharge, information being provided can cause great anxiety without understanding why they are being advised to return home when they are potentially infected or infected with COVID-19. Anxiety impairs patient's ability to understand and process new

information. It is important that clinicians listen to, teach, and reassure their patients. Clinicians should communicate with open ended questions to determine how well the patient understands their medical condition. Patients should be told that in most people, the COVID-19 disease is not as severe as the multimedia reports, and that there are strategies for avoiding transmission to their families.<sup>3-8</sup> The vast majority of infected patients and/or suspected COVID-19 cases experience none or only mild symptoms.<sup>9</sup> Patients should however be warned that the SARS-CoV-2 virus appears to be highly contagious and requires quarantine.<sup>10-15</sup>

It is important to educate the patient about self-management strategies.<sup>16-18</sup> An important part of this step is to assist the patient in developing an accurate understanding of the process of transmission that provides a strong rationale for what they need to do, to prevent it. The guidelines herein provided herein give patients (1) clear instructions about what they should do and why, (2) instruct patients on how to take care of themselves, and (3) provide strategies to help patients better understand how to maximize their safety, the safety of their family, other occupants living in their home environment, and their caregivers. Additionally, evidence-based information supporting these guidelines to patients being discharged is presented elsewhere.<sup>19,20</sup>

The guidelines presented herein are designed to be easily understood and provide patients with basic necessary resources to safely transition from a healthcare facility to home. Furthermore, these guidelines explain to the patient what to do in case of worsening symptoms or changing conditions. Since it is essential that patients understand their instructions, accordingly healthcare providers should give patients and caregivers an opportunity to ask questions about the instructions prior to discharge. Healthcare providers are encouraged to provide adequate time for review of the provided guidelines, ask questions and respond.

The purpose of these discharge instructions is to assist and provide guidance for physicians, nurses, and other health care personnel involved in discharging COVID-19 patients to home after encounters at hospitals, emergency departments, urgent care settings, and medical offices.

## Methods

A systematic literature-search of studies evaluating both symptoms and signs of COVID-19 was performed in order to establish specific optimal performance criteria in monitoring a patient's status with regard to disease safety. These optimal performance criteria parameters were considered with regard to the severity of morbidity and mortality. Strategies used to develop the discharge instructions included review of a broad spectrum of literature to develop the discharge criteria. The literature cited where possible included (1) refereed studies from periodicals published in PubMed recognized journals, (2) United States Center for

Disease Control and Prevention (CDC) and World Health Organization (WHO) and, (3) publications presented by recognized medical center institutions which principally included Johns Hopkins Medicine, Mayo Clinic, and Harvard Medicine Publishing. Since to date, a paucity of information exists for children, referencing was broadened to include additional sources. Where references were unavailable, discharge instructions were created consistent with best practices and in accordance with standard of care. Each parameter comprising the discharge instructions was selected because of its importance related to outcome safety of the patient, household family, and surrounding community of people and animals which have been identified as SARS-CoV-2 carriers.<sup>21</sup>

## Results

The instructional guidelines are presented in a numerical fashion. Of foremost importance, for COVID-19 patients having been discharged to home, is diarying daily oxygen saturation levels, pulse rate, and body temperature. Specific details regarding consultation with a physician include oxygen saturation levels declining below 93%,<sup>22-26</sup> pulse rate >100 heart beats per min,<sup>27-29</sup> fever above 100.4° Fahrenheit (38° Celsius) or excessive chilling with or without tremor (rigors);<sup>30-33</sup> difficulty breathing with >24 respirations per min,<sup>27,30,34-36</sup> shortness of breath<sup>30</sup>; worsening cough with or without productive sputum<sup>30,37-39</sup>; development of nausea, vomiting or diarrhea or worsening of any of these signs<sup>33,40-42</sup>; new onset chest pain or chest pressure that does not resolve; confusion<sup>43-45</sup>; sleep disorder<sup>46</sup>; evidence of cyanotic or erythematous skin discoloration of the oral labia or face or the skin of the toes or fingers<sup>33,47-52</sup>; a generalized feeling of worsening<sup>53-62</sup> which may necessitate prompt remeasuring and diarying of the oxygen saturation level.

Precautions at home to avoid spreading the virus include the following: self-isolation including staying at home<sup>4,63-72</sup>; avoiding touching other people<sup>73-77</sup>; staying isolated in a specific room away from other people<sup>4,11,78-80</sup>; use of a separate bathroom or washroom if possible<sup>80-87</sup>; avoidance of sharing personal household items with other people or pets where possible and if not possible, these items should be cleaned with soap and warm water<sup>88,89</sup>; avoid handling pets<sup>90,91</sup>; and wearing a mask covering the nose and mouth when around other people.<sup>16,19,20,81,92-94</sup>

Cleaning and disinfection are recommended on a daily basis including all high-touch surfaces,<sup>95-98</sup> the practice of meticulous washroom hygiene, and any surfaces that may be contaminated with blood,<sup>95</sup> stool,<sup>83</sup> or body fluids.<sup>99,100</sup> Laundry protocols should be practiced as described in detail elsewhere.<sup>19,101,102</sup> In order to reduce the spread of the SARS-CoV-2 virus, hand and finger sanitation should be practiced often with either soap and warm water or hand sanitizer.<sup>19</sup> Hands and fingers should be air-dried.<sup>4,19,103,104</sup> Hand and finger washing should be practiced after blowing

or exhaling through the nostrils, coughing, or sneezing into them, using the toilet or before handling or preparing food.<sup>105-108</sup> Masks should be worn when in a room with others including caretakers who are not ill<sup>63,69,70,72</sup> and when around other people.<sup>109-116</sup> Notification of close contacts when diagnosed with COVID-19 with instructions for them to self-isolate for 14 days,<sup>2,11,14,15,69,117,118</sup> including caregivers and intimate partners. Close contacts should self-monitor for COVID-19 symptoms and signs. These should include the measurement of body temperature, every 12 hours for fever, cough, or shortness of breath.<sup>119-129</sup> If such symptoms and signs develop, close contacts should contact their doctor.<sup>2,9,11,15,56,130-133</sup> In addition, close contacts should self-monitor oxygen saturation.

It is important to take prescribed medications and to maintain hydration as recommended.<sup>134-139</sup> Several weeks may be required before returning to a feeling of well-being consistent with that experienced prior to COVID-19.<sup>2,132,140-142</sup> Self-isolation should continue to be practiced until resumption of regular daily activities is approved by a physician.

Home precautions and self-isolation may be discontinued when the following occur: no fever for at least 72 hours without the use of antipyretic medications,<sup>2,11,143-148</sup> all other symptoms have improved and 14 days have passed since symptoms started; two consecutive negative COVID-19 tests; and a physician approves.<sup>148</sup>

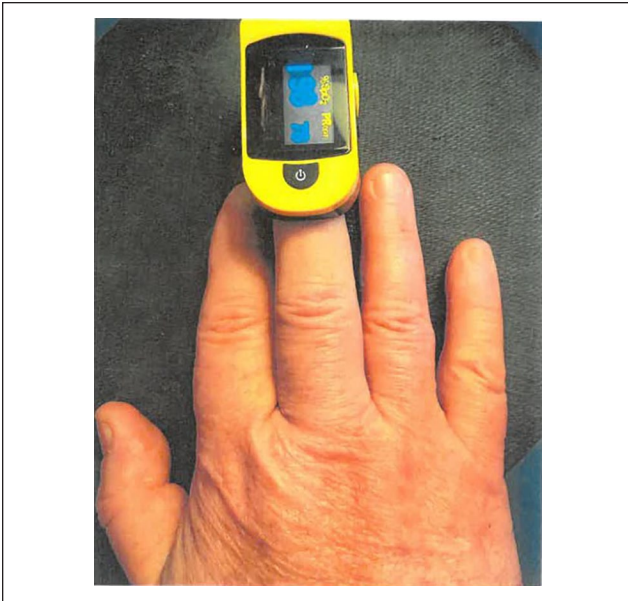
Considering stress and anxiety associated with COVID-19, patients should be advised to limit exposure from multimedia coverage.<sup>149-151</sup> Those patients with pre-existing mental conditions should continue treatment and report new or worsening signs and symptoms.<sup>152-154</sup>

## Discussion

Clinicians treating COVID-19 patients face a major challenge in providing an effective relationship with patients who are discharged to return to home in order to optimize patient self-management after discharge. These guidelines for patient education are designed to achieve essential goals including:

- Enabling patients to understand their medical situation.
- Preventing complications.
- Supporting patients by providing instructions.
- Helping patients make more effective use of available health services.
- Managing patient stress by giving patients comfort through the knowledge of specific recommendations including how to respond to situations.

These goals are consistent with the core competencies described in the World Health Organization report on patient education.<sup>154</sup> Healthcare providers must teach patients current information about measures necessary to



**Figure 1.** Optimal position of pulse oximeter on the distal phalanx and interphalangeal joint of the middle finger of the right hand.<sup>156</sup> when measuring blood oxygen saturation level sit still, be sure the hand is warm, relaxed, and held still and below the level of the heart. Remove fingernail polish from the finger nail.<sup>157</sup>

protect the patient's family and to adhere to safe self-isolation and hygiene measures to avoid transmitting the disease. These guidelines provide a patient education format that facilitates discharge of COVID-19 suspected and positive patients to home. These guidelines provide written instructions advising patients of the steps necessary for safe discharge and returning home and provide economy of healthcare provider teaching time. Written instructions make it easier for patients to understand and assimilate the information being provided. COVID-19 patient education requires communicating self-isolation and hygiene measures appropriate to the patient's home situation. These guidelines for patient education-instructions provide a unique opportunity for teaching patients those strategies that are necessary for the patient to take care of themselves and to limit disease spread. We believe that guidelines for patient education-instruction during COVID-19 needs to be adopted and adapted by healthcare providers. The strategy of patient education with written instructions that can be shared with family, extended family, and others in the home as well as external to the home will allow all to play a significant role in recovery and in limiting disease spread.

In conclusion, prompt detection, effective triage and isolation of potentially infected and infectious patients are cornerstones of the pandemic response. Discharge from the hospital, emergency department, urgent care centers, and medical office settings, provides an opportunity to educate patients for being instructed to return home and

self-management strategies which are the primary measures currently recommended for prevention of COVID-19 transmission.<sup>155</sup>

The COVID-19 pandemic requires clinicians to efficiently teach their patients self-management strategies and to provide a safe educated response to the patient and the surrounding community environment. The primary goal of the patient education discharge-instructions (PEDI) is to provide self-management strategies for preventing complications and disease transmission.

## Appendix

### COVID-19 Patient Education Discharge Instructions (PEDI)

You have been diagnosed with a viral infection called COVID-19 that can cause fever, cough, and trouble breathing as it causes a lung infection. Some patients may also have chills, muscle aches, runny nose, loss of taste, loss of smell, sneezing, sore throat, upset stomach, diarrhea, headache, and generalized fatigue.

At this time, your doctor has determined that you are medically stable enough to be discharged from the hospital or healthcare facility to continue managing your illness at home. You will likely be required to wear a mask when leaving the hospital or clinic and should continue to wear this mask until you are safely home and isolated from other people in your household. You will need to continue monitoring your illness at home to watch for worsening signs and symptoms of COVID-19 because some changes could indicate that your condition is worsening and you may need to contact your doctor.

## I. Monitoring Signs and Symptoms of COVID-19

### a. Diary

The best way to keep track of your health is to maintain a daily diary so that you can track changes in your symptoms. A diary is included at the end of these instructions. Two of the most important measurements are your temperature and *oxygen levels*. Temperature is measured with a thermometer. Oxygen levels are measured with an oximeter. Although everyone understands why a thermometer is important, few of us have an "oximeter" (also known as a pulse oximeter) or know how to use it properly to measure the oxygen levels in your blood (Figure 1). Why is this important? The oxygen level in your blood is a very good indicator of how well your lungs are functioning. It is especially important because, for a lot of people, the first sign that they may have COVID-19 (or that their COVID-19 condition is deteriorating) is when the oximeter shows that oxygen levels have decreased

(dropped) to an unhealthy level. This decrease can happen even before a thermometer shows you have a fever. A drop in oxygen levels can also happen even before you feel any COVID-19 symptoms such as chills, muscle aches, runny nose, loss of smell, loss of taste, sneezing, sore throat, upset stomach, diarrhea, headache, and generalized fatigue. So, measuring blood oxygen levels with an oximeter seems to be the best way to monitor your condition when you have tested positive for COVID-19, are self-isolating at home, and/or recovering at home after treatment in the hospital or clinic. Pulse oximeters to monitor oxygen saturation and determine heart rate are available at most pharmacies and online for \$18-40. Insurance and healthcare companies may cover the cost of a pulse oximeter with a doctor's prescription.

Fill out your diary (attached) daily with your temperature, oxygen level and heart rate (pulse) as measured with our pulse-oximeter.

### ***b. Contact Your Doctor If . . .***

- (1) Your oxygen level measured on your oximeter drops below 93% since this can be the first sign of a worsening COVID-19 infection.
- (2) Your heart rate (measured using your pulse oximeter) when sitting is greater than 100 beats per minute.
- (3) You have a fever that increases above 100.4° or excessive chilling with or without shaking.
- (4) Your ability to breathe is getting worse (breathing harder or faster than before or you feel like you are getting less air) and or you have trouble breathing when lying down and or your respiratory rate (number of breaths you take per minute) becomes greater than 24 breaths per minute.
- (5) You have shortness of breath.
- (6) Cough is worsening. When you cough into a tissue, what do you see? If there is something in your tissue this is called mucus or phlegm. The color is very important, and you should record this in your diary. For example, the appearance of color that is not clear or white, is often associated with worsening when the color is gray, green, yellow, brown, red or a mixture of these.
- (7) You develop nausea, vomiting, diarrhea or any of these are getting worse.
- (8) You have chest pain or chest pressure that does not go away, new confusion, difficulty waking up, and bluish lips or face skin.
- (9) The skin of your toes or fingers changes (either red or blue).
- (10) You start to feel worse at any time in your illness. If this should occur, your oxygen level should be promptly remeasured and logged into your diary.

## **2. Precautions at Home**

These precautions are necessary in order to keep other occupants in your home including caregivers as safe as possible. You may be able to spread the COVID-19 disease to others even if you feel fine and have no symptoms. The COVID-19 virus is spread easily through tiny droplets when you breathe out (exhale), talk, whistle, sing, cough or sneeze. You should take the following steps to help prevent the disease from spreading to people in your home.

### ***a. Self-Isolate at Home***

- (1) Stay at home and limit contact with others to avoid spreading the virus.
- (2) Avoid touching other people, including hand shaking, hugging, kissing.
- (3) As much as possible, stay isolated in a specific room and away from other people in your home.
- (4) You should also use a separate bathroom, if available.
- (5) Avoid sharing personal household items. If possible, you should not share dishes, drinking glasses, cups, eating utensils, towels, or bedding with other people or pets in your home. After using these items, they should be washed well with soap and warm water and not mixed with items from other individuals in your home. If possible, have your own tube of toothpaste.
- (6) Do not handle pets or other animals while sick. Limit contact with pets. If possible, ask someone else to care for your pets while you are sick. If this is not an option wear a mask when you interact with your pet.
- (7) Wear a mask when you are around other people. Some people may not be able to wear a mask because the mask makes it difficult to breathe. In this case it is very important that other people in your home wear a mask when they are around you. If family members or others including caregivers must enter the room you occupy, they must wear a mask.

## **3. Cleaning and Disinfecting**

### ***a. Clean All High-Touch Surfaces Every Day***

- (1) High-touch surfaces include counters, tabletops, doorknobs, fixtures, phones, keyboards, tablets, water faucets, appliances, and bedside tables.
- (2) Bathroom hygiene. Whenever you use a bathroom, you must pay special attention to washing hands and then spray or wipe the following surfaces with disinfectant: toilet handle, all faucets, light/fan switches, and porcelain/stainless steel.

- (3) Clean any surfaces that may have blood, stool, or body fluids on them, wearing disposable gloves when available. Use a household disinfecting cleaning spray or wipe according to the label instructions for safe and effective use of product including precautions you should take when applying the product. You can be injured by not using cleansing products correctly. Do not mix cleaning products.

### **b. Laundry**

- (1) Remove and wash clothes or bedding that may have blood, stool, or body fluids on them and then wash your hands right away. Store used clothes and bedding in a separate container or plastic bag if you cannot wash them right away. Laundry is best cleaned by using laundry detergent (and bleach if consistent with fabric care guidelines), in hot water followed by a full cycle of drying with the maximum temperature set on high heat (if consistent with fabric care instructions).

## **4. Help Stop the Spread of COVID-19 Virus**

- (a) Clean your hands and fingers often.
- (b) Wash your hands and fingers with soap and warm water for at least 20 seconds or use an alcohol-based hand sanitizer that contains at least 60% alcohol, covering all surfaces of your hands, and letting your hands air-dry.
- (c) Wash your hands after blowing your nose, coughing, or sneezing into them, going to the bathroom and before eating and preparing food.
- (d) Avoid touching your eyes, nose, and mouth with unwashed hands.
- (e) Cover your mouth and nose with a tissue when you cough or sneeze.  
Throw used tissues in a trash can lined with a plastic or paper bag, clean your hands right away either with a 20-second warm water and soap scrub or a gel-based hand sanitizer.
- (f) Wear a facemask when you are around other people or caregivers for example, sharing a room or vehicle before you enter a healthcare providers office, hospital or clinic, grocery shopping, or any other public or private activity that involves a number of other people.

## **5. Notify Close Contacts**

- (a) When you are diagnosed with COVID-19 people that you work with should self-isolate for 14 days.
- (b) Once you are first diagnosed with COVID-19, other close contacts such as caretakers and intimate

partners should self-isolate for 14 days after your last contact with them.

- (c) Your close contacts should self-monitor for symptoms by checking their temperature twice daily (every 12 hours) watching for fever, cough, or shortness of breath. They should contact their doctor if they develop symptoms of COVID-19.
- (d) Close contacts should self-monitor oxygen saturation with a pulse oximeter twice daily (every 12 hours) watching for a decline to less than 93%.
- (e) Close contacts should clean hands often and avoid touching, eyes, nose, and mouth with unwashed hands.
- (f) Close contacts should wear a mask if they have to be in the same room with you.

## **6. Medications**

Take all medications that your physician determines are necessary and stay hydrated with 6 to 8 twelve-ounce glasses of water daily.

## **7. Follow-up with Primary Care Physician**

- (a) It may take several weeks for you to feel like you have returned to normal.
- (b) You should remain at home until the risk of infecting others is low. Check with your physician before resuming your regular daily activities.

## **8. Mask Required at All Times**

- (a) If you are in contact with or room with others who are not sick.
- (b) Whenever you are in a public place that requires masks, contact your local and state government websites for additional guidance.

## **9. When Can I Stop Precautions at Home?**

- (a) You can stop isolating yourself when all of these things have happened:
  - (1) You have no fever for at least 72 hours (3 full days of no fever without the use of medication that reduces fever such as Tylenol or ibuprofen).
  - (2) Other symptoms have improved (for example coughing has stopped or shortness of breath have improved) and approximately 14 days have passed since your symptoms first started.
  - (3) You have two negative COVID-19 tests, and your doctor agrees that it is okay for you to stop isolation.

### 10. Manage Stress and Anxiety

- (a) Being diagnosed with COVID-19 can be stressful and cause anxiety.
  - (1) Being ill with COVID-19 might be especially stressful because it is a new disease and there is a lot of multimedia coverage. Take breaks from reading, watching, or listening to news stories including social media.
  - (2) People with pre-existing mental conditions should continue treatment with their

medication and be aware of new or worsening symptoms.

- (3) If you or someone you care about are feeling overwhelmed with emotions such as sadness, depression or anxiety call the substance abuse and mental health services administration disaster distress help line 1800-985-5990. If you are having feelings of wanting to harm yourself or others or suicidal thoughts call the help line for instructions or go directly to the nearest emergency department.

Month \_\_\_\_\_ Year \_\_\_\_\_ Name \_\_\_\_\_

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#### For More Information

CDC Coronavirus Website <https://www.cdc.gov/coronavirus/2019-ncov/index.html>  
 CDC Coronavirus frequently asked questions <https://www.cdc.gov/coronavirus/2019-ncov/faq.html>  
 Call VDH COVID-19 Hotline at 877-ASKVDH3

Foundation, Baltimore, MD, and New African Broadcasting Network-TV, East Orange, NJ.

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