



Operator's bridge training checklist for the **AK 98** Dialysis Machine

Trainee:

Mentor:

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Training result overview

Trainee: _____

Mentor: _____

Section A – Basic

Chapter	Completed	Date	Mentor	Trainee
A1				
A2				
A3				
A4				
A5				
A6				
A7				
A8				
A9				
A10				
A11				
A12				
A13				

Section B – Advanced

Chapter	Completed	Date	Mentor	Trainee
B1				
B2				
B3				
B4				

Introduction

Objective	To provide a tool for a structured mentor based training and follow up of achievements.
Training	The Mentor explains and demonstrates the task for the trainee. The Mentor and Trainee columns can be used for status progression and comments.
Completion criteria	The trainee performs the task independently and the Mentor recognizes and confirms the trainee's achievements.

Reference document	Gambro AK 98 2.xx Operator's Manual MHCEN12745-10/16
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Important notice:

The information in this document does not relieve any user from his or her duty to carefully read the full text of the **AK 98** Operator's Manual.

Content validation:

Document reviewed after each new program release by Global Marketing - Education department in Lund with reference to the current Operator's Manual.

Feedback regarding how this document can be improved is always welcome via your local **Baxter** Sales representative.

Operator training content

Section A – Basic

1	Describe how to use the machine components relevant for machine operation and problem solving
2	Describe in detail how to navigate through the Operator's panel, displays and settings
3	Demonstrate monitoring of blood pressure, pulse rate and mean arterial pressure using the BPM feature
4	Identify and set parameters associated with the prescription for an individual treatment
5	Demonstrate preparation of the machine and extracorporeal circuit for routine hemodialysis
6	Demonstrate initiation and establishment of routine hemodialysis
7	Understand data and information displayed by the machine regarding treatment parameters and progress
8	Identify and solve problems associated with the extracorporeal circuit
9	Identify and solve problems associated with the dialysis fluid circuit
10	Demonstrate finalization of routine hemodialysis and disconnection from the extracorporeal circuit
11	Understand the importance of external and internal machine cleaning and disinfection procedures
12	Demonstrate awareness regarding technical issues
13	Demonstrate familiarity with some infrequently used machine features

Operator training content

Section B – Advanced

1	- Isolated ultrafiltration Demonstrate how to handle fluid removal by the application of isolated ultrafiltration alone or in sequence with hemodialysis
2	- Single needle dialysis Demonstrate how to handle the single needle procedure and apply principles to the relevant machine parameters for performing the treatment
3	- Profiling Demonstrate setting of UF, Na and Bicarbonate profiles
4	- Diascan monitoring system Demonstrate parameter settings of the Diascan monitoring system

Operator training assessment:

Section A – Basic

A1: Describe how to use the machine components relevant for machine operation and problem solving.

A1		Mentor	Trainee
1:1	Identify the new external components and describe the purpose of each		

Reference: **AK 98** Operator's Manual

Chapter 2 Machine description

A2: Describe in detail how to navigate through the Operator's panel, displays and settings.

A2		Mentor	Trainee
2:1	Describe the Operator's panel and identify the main purpose of buttons and displays with regard to: <ul style="list-style-type: none"> <li>- Blood parameters <li>- Fluid parameters <li>- Blood pressure monitoring <li>- Machine modes (priming, discontinuing, disinfection buttons) <li>- Blood pump handling <li>- General navigation <li>- Various icon buttons 		
2:2	Explain the purpose of a flashing button		
2:3	Describe and explain how to navigate through the Operator's panel and: <ul style="list-style-type: none"> <li>- Select a tab <li>- Open a parameter <li>- Change a value <li>- Confirm a value <li>- Cancel a value 		
2:4	Explain how to activate/deactivate a function.		

Reference: **AK 98** Operator's Manual
 Chapter 3. Handling the dialysis machine

A3: Demonstrate monitoring of blood pressure (BP), pulse rate and mean arterial pressure (MAP) using the BPM feature.

A3		Mentor	Trainee
3:1	Demonstrate monitoring of BP, pulse rate and MAP using the BPM feature		
3:2	Demonstrate how to view previous BPM readings taken during the treatment		
3:3	Demonstrate the use of the BPM alarms		
3:4	Demonstrate the use of auto and manual modes and outline the value of each mode		

Reference: **AK 98** Operator's Manual
 Chapter 8 Measuring blood pressure (option)

A4: Identify and set parameters associated with the prescription for an individual treatment.

A4		Mentor	Trainee
4:1	Demonstrate the ability to set, check and change the treatment parameters:		
	- Blood flow		
	- Time		
	- Heparin hourly infusion		
	- Heparin stop time		
	- Heparin bolus infusion		
	- UF volume		
	- Set minimum UF rate		
	- Dialysis fluid temperature		
	- Dialysis fluid sodium concentration		
	- Dialysis fluid bicarbonate concentration		
	- Dialysis fluid flow		
4:2	Demonstrate how to enter and confirm the patient ID		
4:3	Demonstrate how to retrieve and confirm the patient prescription from the CIS		
4:4	Explain how to change a prescription value and how the machine will display that the value has been manually altered		
4:5	Explain when and how you would need to label the data being sent to the CIS with the patient ID		

Reference: **AK 98** Operator's Manual

Chapter 3. Handling the dialysis machine

Chapter 4, Hemodialysis – Double Needle Treatment

Chapter 12 IT Connectivity

A5: Demonstrate preparation of the machine and extracorporeal circuit for routine hemodialysis.

A5		Mentor	Trainee
5:1	Demonstrate the start-up procedure, including power and water supply		
5:2	Demonstrate how to set/check the type of concentrate to be used		
5:3	Identify when and demonstrate how to connect concentrate/s		
5:4	Demonstrate a complete set-up of the extracorporeal circuit together with the priming solution		
5:5	Explain the importance of placing the venous line correctly into the priming detector		
5:6	Explain at which point the pressure transducer protectors can be connected to the respective pressure connector		
5:7	Demonstrate and explain the potential relevance of priming UFR		
5:8	Demonstrate when and how to connect the dialysis fluid connectors to the dialyzer		
5:9	Identify when and how to initiate and demonstrate the priming procedure		
	- Manual priming		
	- Assisted priming		
5:10	Explain why the venous drip chamber needs to be filled in order to get the treatment time display		
5:11	Explain the purpose of <ul style="list-style-type: none"> - Priming - Extra priming - Recirculation 		

A5		Mentor	Trainee
5:12	Demonstrate when and how to activate the dialysis fluid flow		
5:13	Demonstrate when and how to activate the air detector		
5:14	Demonstrate how to solve an air detector alarm during priming		
5:15	Demonstrate how to manually activate CSBM (Concentrate Stand-by Mode)		
5:16	Demonstrate how to initiate a new priming		

Reference: **AK 98** Operator's Manual

Chapter 3, Handling the dialysis machine

Chapter 4, Hemodialysis – Double Needle Treatment

A6: Demonstrate initiation and establishment of routine hemodialysis.

A6		Mentor	Trainee
6:1	Confirm machine preparation for the individual treatment		
6:2	Identify how the machine determines and communicates the change from priming mode to treatment mode		
6:3	Explain the sequence in which the buttons are pressed at the start of the treatment		

Reference: **AK 98** Operator's Manual

Chapter 4. Hemodialysis – Double Needle Treatment

A7: Understand data and information displayed by the machine regarding treatment parameters and progress.

A7		Mentor	Trainee
7:1	Explain how to interpret the displays: - Venous pressure control - Arterial pressure control		
7:2	Locate value parameters appropriate for recording treatment progress - Q_B - Venous pressure - Arterial pressure - UF Rate - Acc Q_B - Acc UFV - Acc Heparin - TMP		
7:3	Demonstrate AP and VP alarm limit management with regard to: - auto-centralize - manual adjustment		
7:4	Identify the location of and events added to the non-diffusion time		
7:5	Demonstrate how to access attentions		

A7		Mentor	Trainee
7:6	Explain the significance of the machine alarm indication light: - high priority - medium priority		
7:7	Demonstrate how to display the alarm history		
7:8	Explain how to find information about attentions and alarms in the Operator's Manual		

Reference: **AK 98** Operator's Manual

Chapter 3. Handling the dialysis Machine

Chapter 4. Hemodialysis – Double Needle Treatment

Alarm handbook. 1 Alarms

Alarm handbook. 2 Attentions

A8: Identify and solve problems associated with the extracorporeal circuit.

A8		Mentor	Trainee
8:1	Identify and solve problems related to: <ul style="list-style-type: none"> <li>- Air in venous chamber <li>- Low and high venous pressure alarm <li>- Low and high arterial pressure alarm <li>- Blood detected in fluid path 		

Reference: **AK 98** Operator's Manual

Alarm handbook. 1 Alarms

Alarm handbook. 2 Attentions

A9: Identify and solve problems associated with the dialysis fluid circuit.

A9		Mentor	Trainee
9:1	Identify and solve problems related to: - UF volume deviation alarms - Conductivity alarms - Temperature alarms - Insufficient water supply		

Reference: **AK 98** Operator's Manual
Chapter 3. Handling the dialysis machine
Alarm handbook. 1 Alarms
Alarm handbook. 2 Attentions

A10: Demonstrate finalization of routine hemodialysis and disconnection from the extracorporeal circuit

A10		Mentor	Trainee
10:1	Identify how the machine communicates the end of treatment and demonstrate how to confirm		
10:2	Demonstrate rinse-back as per unit policy		
10:3	Understand the “Confirm Patient Disconnection” implications		
10:4	Explain the purpose of removing the blood-line from the priming detector after patient disconnection		
10:5	Demonstrate recording the relevant treatment parameters after the treatment is completed		
10:6	Demonstrate draining of dialyzer fluid compartment using the machine		
10:7	Demonstrate the return of concentrate connectors to the appropriate ports and hygienic storage of the pick-up tubes		
10:8	Demonstrate draining of the BiCart cartridge using the machine		
10:9	Describe relevant actions for discontinuing the treatment earlier than planned		

Reference: **AK 98** Operator’s Manual

Chapter 4. Hemodialysis – Double Needle Treatment

A11: Understand the importance of external and internal machine cleaning and disinfection procedure.

A11		Mentor	Trainee
11:1	Identify the rationale and procedure for: <ul style="list-style-type: none"> <li>- Heat disinfection <li>- Short heat disinfection with liquid citric <li>- Heat disinfection with CleanCart cartridge <li>- Chemical disinfection 		
11:2	Demonstrate how to display the disinfection history		
11:3	Identify the disinfection procedure required in connection with a confirmed blood leak, as per unit policy		
11:4	Demonstrate when and how the chemical residual test procedure is performed		
11:5	Demonstrate cleaning of external surfaces		

Reference: **AK 98** Operator's Manual
Chapter 10. Disinfection and cleaning

A12: Demonstrate awareness regarding technical issues

A		Mentor	Trainee
12:1	Discuss the value of machine presets		
12:2	Demonstrate awareness of the machine communication regarding technical issues		
12:3	Identify who to contact if a technical problem arises		

Reference: **AK 98** Operator's Manual

Alarm handbook. 1 Alarms

A 13: Describe familiarity with some infrequently used machine features.

A13		Mentor	Trainee
13:1	- New blood circuit Demonstrate how to change the extracorporeal circuit during treatment		
13:2	- Night light Demonstrate how to activate the night light		
13:3	- Integrated heat disinfection Identify machine settings and mode that must be programmed and activated to enable overnight integrated disinfection		
13:4	- Battery back-up Describe the purpose of the machine battery back-up		
13:5	- Time Demonstrate how to set the time and adjust for day light savings		

Reference: **AK 98** Operator's Manual

Chapter 3. Handling the dialysis machine

Chapter 10. Disinfection and cleaning

Operator training assessment:

Section B – Advanced

B1: Isolated ultrafiltration

Demonstrate how to handle fluid removal by the use of isolated ultrafiltration

B1		Mentor	Trainee
1:1	Demonstrate settings for isolated ultrafiltration		
1:2	Identify procedure for isolated ultrafiltration followed by dialysis		
1:3	Identify procedure for dialysis followed by isolated ultrafiltration		
1:4	Understand the isolated UF displays:		
	- Isolated UF volume		
	- Isolated UF time		
	- Isolated UF acc time		
	- Isolated UF acc volume		
1:5	Understand the time and UF displays:		
	- Total set time		
	- Non diffusion time		
	- Treatment time		
	- Total set UF volume		
	- Acc UF volume		

Reference: **AK 98** Operator's Manual

Chapter 6. Isolated Ultrafiltration

B2: Single needle dialysis

Demonstrate how to handle the single needle procedure and apply principles to the relevant machine parameters to perform the treatment.

B2		Mentor	Trainee
2:1	Demonstrate set-up and priming with the appropriate circuit for SN dialysis		
2:2	Locate and explain the displayed single needle values: - Minimum stroke volume limit - Low venous pressure limit - High venous pressure limit - Mean blood flow rate - Stroke volume		
2:3	Describe how the machine controls the phase shifts during SN dialysis		
2:4	Demonstrate initiation and adjusting of the SN parameters as required in the treatment		
2:5	Identify alarms and attentions specific to SN dialysis		
2:6	Demonstrate disconnection procedure for SN dialysis		

Reference: **AK 98** Operator's Manual

Chapter 5. Hemodialysis – Single Needle Treatment

Alarm handbook. 1 Alarms

Alarm handbook. 2 Attentions

B3: Profiling

Demonstrate setting of sodium, ultrafiltration and bicarbonate profiles.

B3		Mentor	Trainee
3:1	Locate the settings and data relevant to profiling		
3:2	Explain the different profiles available		
3:3	Identify the parameters determining the shape of a profile		
3:4	Explain the effect of the minimum set UFR on UF profiling parameters		
3:5	Demonstrate when and how profiling can be activated		
3:6	Explain the outcomes if UF profiling is deactivated or settings are changed during dialysis		
3:7	Explain the outcomes if sodium or bicarbonate profiling is deactivated during dialysis		
3:8	Explain the effects on sodium and bicarbonate profiling if the remaining time is changed during treatment		

Reference: **AK 98** Operator's Manual

Chapter 7. Profiling

B4: **Diascan** monitoring system

*Demonstrate parameter settings of the **Diascan** monitoring system.*

B4		Mentor	Trainee
4:1	Explain the abbreviations used for setting the Diascan monitoring system: - K limit - Kt/V target - Volume - Watson formula - Kt/V limit		
4:2	Demonstrate how to set up and activate the Diascan monitoring system		
4:3	Explain machine response to a change of each of the following parameters during a measurement made by the Diascan monitoring system: – QB – QD – UFR – Conductivity – Temp		

Reference: **AK 98** Operator's Manual

Chapter 9. Checking clearance (Diascan) (option)

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